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THE

SAINT LOUIS MEDICAL AND SURGICAL JOURNAL.

EDITED IN CONJUNCTION WITH

M. L. LINTON, M.D.,

Professor of the Principles and Practice of Medicine in the St. Louis Medical College,

BY

G. BAUMGARTEN, M.D.

"Rationalem puto medicinam esse debere."—CELSUS.

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Original Communications.

THE CORRELATION AND CONSERVATION OF FORCES.

A LECTURE

Delivered before the Class of the Missouri Medical College, Oct. 8, 1867.

By J. H. WATTERS, M.D., Professor of Physiology, Pathology, and Clinical Medicine.

GENTLEMEN:

The subject of which I shall treat in this lecture is of universal interest and importance; for the principles which I shall enunciate will be involved, implicitly at least, in every lecture which I shall deliver in this course. I present the matter to-day in a general form only, and its full purport will only be seen when you become more familiar with physiology, pathology, and therapeutics; for it has an essential relation to all these departments of science. I refer to the laws of force, especially in connection with what is popularly called "The correlation and conservation of the physical and vital forces." Even down to the 17th century, the most crude and indistinct ideas of the nature and laws of motion were entertained. It remained for GALILEO, and the great men of his time, to enunciate and demonstrate the "three laws of motion," which, since HUYGENS, NEWTON, DESCARTES, and others, of that period,

have been universally accepted by the scientific world. The age had not until then arrived at the point to recognize the inertia of matter. The three laws of motion are but different *modes* of the recognition of this inertia. Until the 17th century the laws of the motions of masses of matter were no more comprehended than are at this time the laws of molecular motions as represented in chemistry and in life. And even now it is not every one who makes pretense to science that sees in its full import the absurdity of a machine with "perpetual motion." The present advanced condition of mechanics received its vital spark in the clear and distinct enunciation of an idea as represented in the laws of motion; that idea is the *inertia of matter.*

But if you will examine the history of science, you will discover that these great progressions, which mark certain epochs, grow out of a collection of a vast multitude of facts necessary to the discovery of the pervading principle. The coming of this principle or idea, through the mediation of facts into self-consciousness, marks the dawn of a science and of an epoch. Science grows like animals, from the simple to the complex. There are preludes to every epoch, just as there are certain stages in the growth of the butterfly and frog. You do not see science springing up in a single individual; it is an offspring of the age.

In regard to the development of the three laws of motion, we see that until recently the conception of the inertia of matter has been confined to matter in its gross and massive forms, but in chemistry and in biology, and even in the conception of gravitation, matter is assumed to be endowed with active properties. Even to this day we find it taught in text-books that there are absolute inherent powers in matter inducing these motions, or causing the need of a special "vital force" to counteract them, though it is also taught that matter is inert. As there was a significant prelude to the epoch of GALILEO, so the present theory of the "correlation and conservation of forces" indicates a prelude to a more important epoch in science. It indicates an

earnest struggle against the false and indistinct conceptions of force of the last century and of the first half of this. I hail it with joy, because with its popular illustrations it will become the stepping-stone to more distinct and profound ideas.

This theory, in its various phases, is an attempt towards the logical carrying out of the law of inertia to heat, light, electricity, magnetism, chemical affinity, and the other "affections of matter." Why, then, should it seem so difficult to understand? It is because the mystical doctrines of chemical affinity, of a special vital force, etc., are still taught to the young in full force, and thus it becomes more difficult to unlearn than to learn. But if matter is inert (negative), it can not be endowed with properties incompatible with its inertia, such as chemical affinity, etc. These indistinct notions, however, are provisional, and, as provisional, are necessary;—as in astronomy the hypothesis of PTOLEMY and the theory of epicycles preceded the generalizations of COPERNICUS, and these preceded KEPLER and NEWTON; as in architecture the solid masonry is supported by "false work" until the key-stone receives its proper place,—so the many false hypotheses of chemical affinity, of heat, of light, electricity, etc., have supported the vast accumulation of facts which constitutes the prelude to a new epoch. In the 17th century we find the same questions discussed which are now agitating the scientific world. Under the questions of the "Centre of Percussion," of the "Centre of Oscillation or Agitation," of the "Conservation of Vis Viva," the discussions resulted in distinct ideas and expressions. But so soon as mechanics thus found a solid basis, then by degrees the scientific mind of succeeding times was turned to the phenomena of chemistry, of light, of heat, of electricity, galvanism, life, etc. In these departments the facts were scant; and, as in the early history of astronomy and mechanics, the hypotheses were indistinct and false, so here it is to be expected that hypotheses with the same indistinctness and erroneousness

will be found. Thus the hypothesis of inherent and essential forces has been useful, as it has sustained the mind in its search for facts by experiments and observation, so that this collection and classification of phenomena has been the highest ambition of the workers in these departments. And these most earnest workers could not be persuaded but that their end is the end of science! So it is well; thus the world moves on; the end becoming the means in order that self-end, which is freedom, may be reached.

The theory of the correlation and conservation of forces starts with a repudiation of the doctrine of an initial or beginning force; and thus far clinging to the idea of inertia, maintains that the various forces, or "modes of motion," or "affections of matter," such as heat, light, electricity, chemical affinity, etc., etc., are indestructible, neither having beginning nor ending; yet any one may cease to be as such, but in ceasing it gives origin to another —equivalent for equivalent. Thus the force is conserved in the change of "modes." To illustrate: When heat is applied to water its temperature is raised to 212 degrees, and then 960 degrees are required to form steam, though the steam is only 212 degrees. What becomes of these 960 degrees of heat? The old theory says it is "latent" in the steam: the correlation theory says, no; it is correlated into the motion of the particles of water of the steam, and is again represented in the "gross palpable motion" of the engine. But whence the heat when wood or coal is burned? The correlation theory says it represents the arrest of motion in the uniting of oxygen and carbon; but whence this motion? Here the correlation theory is at an end, or, at least, its end becomes apparent. It is said that the heat represents the heat and light of the sun in the formation of woody fibre from carbonic acid and water. This, in one sense, is true. But what was the *mode* of that motion during the thousands of years that the coal has been buried in the mountains? The correlation theory says, molecular

motion! There must be a great stir among the particles of a keg of gunpowder if the gross motion of the explosion represents it. As we shall see, no such subterfuge as this is required in the application of the clear old ideas of the 17th century regarding the "conservation of vis viva" to chemistry, and life, and all physical phenomena.

And, gentlemen, this theory of the correlation of the physical forces has been applied to the vital forces. In this connection it has been quite definitely stated by Drs. CARPENTER and HINTON, of London, in recent works, that the vital forces are correlative with heat and light of the sun, or as caused in the oxydation of our food and tissues. Now, in my original thesis, written in 1850 for the degree of Doctor of Medicine, and published in 1851, I advocated the doctrine that the vital phenomena in man are reciprocal with oxydation, and though I sent these gentlemen this and other papers upon the subject, and though it was to some extent republished in 1852 in the *American Journal of the Medical Sciences*, and has been extended in the *St. Louis Medical and Surgical Journal* from time to time, yet they have recently come out with arguments and illustrations in many respects identical, and even expressions, too, without so much as noticing the existence of so humble an individual as myself. I speak this not with arrogance nor in anger, but with a deep and abiding conviction of great injustice. Especially do I feel this in regard to Dr. CARPENTER, to whom I owe so much. Our records are in print; I make public this unvarnished statement of facts.

I will not at present enter fully into the subject of the application of the idea of inertia of physical agents to the various phenomena of life,—that will be done in the ensuing course,—but I will here say, that as heat causes water to evaporate, and to be carried by the winds to the mountains, and as in its return it becomes a motor to machinery, so heat and light acting upon the plant cause carbonic acid, water, ammonia, etc., to be transformed into organic compounds, and these, in their return to the ocean of inorganic

nature, become the motors of our steam engines, and of our various vital processes. As the steam engine will soon cease its motions unless the supply of fuel be continued, so, and for the same reason, our vital motions will soon come to an end without a continual supply of food. We put coal under the boiler; it combines with oxygen; the carbonic acid is carried off by the smoke pipe, and the cinders and ashes fall below: so we take in as food albumen, fats, starch, etc.; the carbonic acid escapes by the lungs, and the cinders and ashes with the urine and feces.

But, you ask, if life be thus mechanical, how is it that in the uterus and egg shell, where there is no light, the eye is formed most wonderfully adapted to the laws of light? What induces the matter to arrange itself so wisely? Or you may put the same question in this form: What induced matter to combine in the form of living organisms, as there was a time when no living form inhabited the earth? It seems to me that I can best answer this question by a concise criticism of the "correlation theory." I mean the *theory* itself, and not the facts presented to illustrate it; the reason why I specialize this distinction will hereafter appear.

This theory makes force an absolute unit whether it considers it as a "mode of motion," or as an "affection of matter," or as "emanating at once from the Divine will." Now, no such thing exists in nature. When one body in motion impinges upon another at rest, which strikes the other the harder? Which changes the state of the other the more? These you see are equal, as action and reaction are equal and opposite. Then why define force as a "mode of motion?" Why not equally define it a mode of *rest?* No reasonable answer can be given. Again, it is an arbitrary abstraction of the senses, which one we called the action and which the reaction. The earth, though apparently at rest, is moving in its orbit at the rate of sixty-eight thousand miles an hour. Suppose a cannon turned to the opposite direction to the motion of the earth, and that a ball be shot from it apparently with the velocity of sixty-eight

thousand miles an hour; the ball would be actually at rest, and the cannon moved from it with the impetuous earth. Suppose, now, this ball should come in contact with some body upon the earth, the effect would be great, and the sensational understanding would make the ball, though at rest, active, and the other body, though in motion, passive. Then, I ask again, why define force a "mode of motion" when a *mode of rest* must be an equal integer? You remember the struggle the heliocentric theory of COPERNICUS had for acceptance, because the senses seemed to testify that the earth is at rest, and that the sun, moon, and stars revolve around it. The history of science of that time is now well worthy careful study and deep reflection. Absolute motion and absolute rest are identical and equally without force. *Force is only in the union of opposites.* No effect or change, either of rest or motion, can be except in the union of opposites. This is universally true; if not, find an exception. There can be no action without an equal reaction. You can not lift yourself by the hair, nor hang your coat upon the shadow of a nail. For action and reaction there must be the coming together of opposites. These opposites, then, are not self-contained forces, but only "moments" of force — the one, as *force*, having its existence in the other.

Then, to extend the law of inertia or of the "conservation of vis viva" to chemistry and biology, it is far from necessary to suppose that motion, originally coming from the sun in the form of heat and light, has been stored in the coal in the mountains for thousands of years. True, a "*moment*" of force has been stored there, but that moment may be a *mode of rest* rather than a "mode of motion." The same remark applies to food, etc., etc. The correlation theory starts with the indestructibility of force, but in making force unital and immediate, it itself falls into contradictions which it should have recognized in the very nature of force. It makes a motionless motion (coal, food, gunpowder, etc.), a motion *in equilibrio;* and, carrying out the immediacy of

force, it can but see the sun radiating *its* heat and light throughout space with lavish profligacy, that the planets (but specks, comparatively,) may receive their share as they come in the way. Then to compensate for this great loss to the sun, it has ærolites falling into it, so that their "motion retarded" may replenish the loss!! As the planets have motions in their orbits, and as all force is mediated through opposites, may not the sun, occupying the centre of the system, be the *alterum* to these planetary motions, thus *begetting* heat and light where needed? What a saving this would be of the raw material and of ærolites!

Thus, then, force is not in fact or in thought immediate, or an absolute unit, but every begetting, becoming, change, or phenomenon, is by copulation. In human beings, we say it is love that brings together the opposites; in animals, instinct; in chemistry, affinity; in astronomy, gravitation. If the woman is debarred from the male there is no offspring,—the coal in the mountain is the male or female (as you please) imprisoned.

Now we are prepared to see how it is that the eye is so wonderfully formed in the uterus, though the phenomena of life, of development and growth, are in exact harmony with the inertia of matter and the laws of motion. It is through the necessity and dependence of matter that this is possible. There can be no such thing as an independent, unital, immediate vital force; but the force is through the concrete relations, and, if you please to so express it, there are as many forces as forms, for the force is the progeny of the marriage of *form* and *motion*. The motion is mediated through the form. Heat is not converted or metamorphosed into vital force as immediate (CARPENTER), but vital force is through the highest physical mediation.

Thus it is quite clear that what we call the properties of oxygen, hydrogen, and of the other elements of matter, do not inhere in these elements as individual and immediate, but in their *comprehension*, which includes the universe. And the same thought must compel us to admit the same thing

of any combination of these elements up to the physical universe itself. The sensational consciousness is continually abstracting objects of sense from their relations, and seeing them in this abstract and false light. It sees that oxygen combines with hydrogen in the formation of water, and it jumps to the conclusion that these elements are *endowed* with "chemical affinity"; yet if it would *actually* change their relations a little (not entirely abstract them, as in its conception), it might see the elements separate into the original gases. It sees the grain of corn germinate and perform peculiar and wonderful phenomena, and it jumps to the conclusion that the seed is *endowed* with a "vital force"; yet if it would change the relations a little (keep it dry in the granary or in a mummy, if you please,) not one of these peculiar phenomena would be performed. It sees the phenomena of life in the most complex organism performed in connection with cells, and it jumps to the conclusion, "that we must not transfer the seat of real action to any point beyond the cell," and the world is flooded with a "cellular pathology." It is not a little singular that this last abstraction should come to us from the land of KANT, FICHTE, and HEGEL, but it is not the first time that the chief corner stones have been rejected by the builders. In the history of science these abstractions must be, since there must be analysis as the condition of a true synthesis; yet the great aim and end of science is to see things in their relations, in their comprehension, in their truth.

We now come to the final view of the question as to the wonderful formation of the eye, and the infinite manifestations of intelligence. An innocent person might attempt to effect perpetual motion by combining many wheels and springs, but one imbued with the law of inertia and the third law of motion would see at once, that an infinite combination would be as powerless as the simple,—that an infinite combination could not create power. So one might be considered innocent who would become so confused as to suppose that a chain of dependencies extended never so

far in time and space could become thereby self-sustaining. Now we have seen that every thing in nature, whether simple or complex, is dependent for what it *is* upon that which it *is not*. This is but the carrying out of the law of inertia and the third law of motion, and is illustrated by every phenomenon in nature; the facts brought out in connection with the "theory of the correlation and conservation of forces" can not but attract attention. Then the whole physical universe must be dependent for what it is upon that which it is not. The existence of one single dependent involves an independent. Then cling to your law of inertia, to your third law of motion, to your correlation and conservation of the physical and vital forces; but then be logical, and admit that these very laws are determined and sustained by *not matter*, by the self-sustained, by the self-mediated, by spirit. If you will not do this, then take issue with facts and the present doctrines of science, and give to each element of matter self-activity, self-determination, and infinite intelligence. But in this you gain nothing, for in opposition to facts, you are giving to matter that which you are so unwilling to grant to its opposite—spirit.

Thus, then, as matter is inert, and as action and reaction are equal and opposite, what appears to the senses and to the sensational understanding as the laws and actions of matter are the actions and laws of spirit. Now it ceases to be strange that the eye should be formed in the womb and in the egg shell, in accordance with physical laws, perfectly adapted to the laws of light; for the laws of mechanics, the laws of chemistry, the laws of life, and the laws of light are alike but expressions of one Infinite Intelligence.

As all things are in the union of opposites, so this spirit can not be an absolute unit. But to be self-sustaining and self-determinate, it must be self-*mediated*,—three persons in one. In this connection, how remarkable that passage: "In the beginning was the Word, and the Word was with GOD, and the Word was GOD. The same was in the beginning with GOD. All things were made by Him; and

without Him was not anything made that was made." As all things are determined and sustained by the self-determining, the self-sustaining, and self-mediating spirit, its centre is everywhere and its circumference nowhere. "Not a sparrow falls to the earth but by His bidding, and every hair of your head is numbered." Do the elements of matter unite to form the eye for a future use?—do the rootlets of the plant pierce the soil towards its food, and the leaves turn to the light?—do the bees gather honey in summer for the coming winter, and are the inspirations, the instincts, the faiths of man alone deceptive and illusive? These make no exception, and it is pleasant to see that science, how far soever it may have wandered in its period of analyses and abstractions, must inevitably return in its comprehension, to the faiths of our fathers. This is not a simple return to these faiths, but it is their new birth and their baptism with the Spirit.

ON THE MODERN TREATMENT OF LACRYMAL OBSTRUCTIONS BY DILATATION OF THE NATURAL PASSAGES.

By JOHN GREEN, M.D., of St. Louis, Mo.

The practice of laying open the lacrymal sac through the external integuments, in cases of acute or chronic dacryocystitis, with obstruction of the nasal duct, has in our day given place to improved methods, based upon the principle so long applied to stricture of the urethra, of dilatation through the natural passages. In the present state of knowledge it may be safely laid down as a principle, that in very few cases, either of stricture of the nasal duct or of inflammation of the lacrymal sac, is it necessary or advisable to open the sac in the old method by a puncture through the skin. If we have to deal with an acute abscess of the lacrymal sac, it is quite possible, in many

cases, to give vent to the pus by means of a slender grooved probe, passed into the sac by the way of the upper or lower punctum; and if this simple manœuvre fails, the punctum or even the whole length of the canaliculus may be slit up, either with fine scissors or by a narrow-pointed knife guided upon the groove of a fine director, so as to open a free communication between the cavity of the lacrymal sac and the sac of the conjunctiva. But even the degree of interference with the integrity of the parts implied in this latter procedure is but seldom absolutely indicated, for it is an undoubted fact that, in the great majority of cases, the fluid contents of the sac can be sufficiently evacuated through the canaliculi and puncta if only these passages are so far unobstructed as to admit of the passage of the small grooved probe already referred to.

The idea of dilating, or, at any rate, of forcing obstructions of the nasal duct by means of slender probes passed into the sac by way of the puncta and canaliculi, is very old. The probes and syringe, employed by ANEL (Turin, 1713), and which still bear his name, are described in all the text-books. They are, however, too small to be of any real service, and are, for the same reason, dangerous to use.

Larger probes "of about five inches long, varying in size, flattened at one end, and slightly bulbous at the point," were used by Mr. TRAVERS (London, 1820). These probes are passed throughout the whole extent of the lacrymal passages, from the punctum lacrymale to the nostril; "if the punctum be constricted, it is readily entered and dilated by a common pin, and, upon withdrawing it, by one of the smaller probes." The manner of passing the probes is fully described by Mr. TRAVERS, and the whole subject treated with a degree of precision and clearness not surpassed by any later writer; and although he does not state explicitly the size of his probes, there can be no doubt that he used them at least equal in diameter to the ordinary calibre of the canaliculi, thus demonstrating that the puncta can be easily dilated to the same size.

Among modern surgeons the method of Mr. TRAVERS has been followed chiefly by a distinguished American ophthalmologist, Dr. ISAAC HAYS, of Philadelphia, who has described it fully, and has given his own testimony in its favor in his excellent edition of Lawrence on the Eye (3d Ed., Phila., 1854).

Another plan for dilating strictures of the nasal duct, borrowed also from urethral surgery, is by the use of metallic sounds, called *styles*, of such form and dimensions as may admit of their being worn for a longer or shorter period. The nail-headed silver, or better, gold styles of Mr. WARE (London, 1798) are introduced through an opening made in the skin immediately below the tendon of the orbicularis muscle: they are designed to be worn for many months, or even permanently, the tears finding their way readily by the side of the style into the nostril. Soft bougies and catgut were also employed by some of the older surgeons (SCARPA, BEER) in the dilatation of the nasal duct, but always through an artificial external opening. The plan of treatment by probes or styles introduced through an opening in the skin is now generally abandoned in favor of other methods involving less violence to the parts. Mr. TRAVERS employed styles as well as probes, but always passed them into the sac by the way of the upper or lower punctum and canaliculus, but he never allowed the patient to wear them more than twenty-four hours at a time.

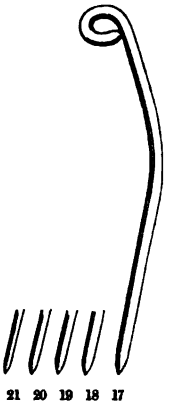


FIG. 1.—DR. HAYS' styles for the dilatation of obstructions of the nasal duct by way of the puncta and canaliculi (from LAWRENCE on the Eye, 3d American ed., 1854). The sizes are taken from STUBS' wire gauge.

Following substantially in the footsteps of Mr. TRAVERS, Dr. HAYS (Philadelphia, 1854) has used the styles much more extensively than that surgeon, and, as he states, "with the most gratifying success." His probes or styles (Fig. 1) vary from No. 17 to No. 21 of the wire gauge, and are always introduced by the way of the lower punctum. "No violence should

be used. If the probe can not be introduced by moderate pressure, it should be withdrawn, and after an interval of some days, when all irritation has subsided, another attempt should be made. Sometimes a third and fourth trial may be required before we succeed, but this will be very rarely the case."

"When the probe has been once introduced, it is allowed to remain one, two, three, or even twelve or more hours, if it does not sooner produce irritation. After the probe [or style] is withdrawn, the passage should be washed out with cold water by means of an ANEL'S syringe, and the parts, if they feel sore, fomented for an hour or more with cloths moistened with warm hop tea. * * * "

"After an interval of four, five, six, or eight days, to allow the tenderness to disappear, the same probe, or, if practicable, one a little larger, may be introduced. This process is to be repeated at intervals, the size of the probe being increased whenever practicable until the passage has been dilated to its full extent. When this is acomplished it may be well to introduce the large probe a few times at distant intervals, and inject cold water through the punctum by an ANEL'S syringe."

The practice of passing any but the smallest probes, scarcely larger than a hog's bristle, through the lacrymal puncta was long held in very general disfavor owing to the supposed danger of splitting, or producing what was called atony of the part. A knowledge of the true physiological action of the puncta, as has been admirably demonstrated by Mr. BOWMAN, has effectually dispelled this fear. In a paper published in the *Medico-Chirurgical Transactions* for 1851, this eminent surgeon and physiologist described a new operation for epiphora, in cases of eversion of the puncta, by slitting open the punctum and the wall of a part of the canaliculus as far as the caruncle. The complete success of this beautiful and simple little operation soon led to its very general adoption in suitable cases, and very naturally suggested to the acute mind of its author,

that by a similar slitting of the punctum a ready way may be opened for the further exploration of the lacrymal passages, and even for the dilatation of strictures of the nasal duct. Following this line of research, Mr. BOWMAN devised the improved plan for the treatment of lacrymal obstructions which has been very generally adopted and which is everywhere known by his name (Ophthalmic Hospital Reports, London, October, 1857.)

The method of Mr. BOWMAN consists essentially in the repeated dilatation of the natural passages by means of metallic probes, of regularly increasing diameter, introduced through one of the puncta previously enlarged by slitting it up a little way towards the caruncle. These probes (Fig. 2) are of a cylindric form, smoothly rounded at the end, and are made of six sizes, varying from the minute and almost capillary probes, known as ANEL'S, to a diameter of 1-20th of an inch. The larger of these probes only (Nos. 5 and 6) are designed to be used for the exploration or dilatation of the nasal duct; the smaller ones are intended for the dilatation of strictures occurring in the course of the canaliculi. The fundamental principle upon which this method is based, is contained in the anatomical fact, that the canaliculi are somewhat capacious ducts, capable of giving passage to probes of a diameter of about 1-20th of an inch, which, as Mr. BOWMAN has shown, are sufficient for the dilatation of all ordinary strictures of the nasal duct.

FIG. 2.—Mr. BOWMAN'S probes for dilating the canaliculus and nasal duct, by way of the lower canaliculus.

The upper or lower punctum and about 1-12th of an inch in length of the canaliculus are first laid open by fine scissors, or by a knife and grooved probe, so as immediately to admit a sound of the full diameter of the duct. Any

obstructions in the course of the canaliculus, or at its entrance into the lacrymal sac, are then carefully explored, and their dilatation gradually accomplished by means of the different sized probes, until the strictured part will give passage to a probe of a size sufficient to fill, or very slightly to distend, the canaliculus throughout its whole length. When this stage has been reached, or when no material obstruction is encountered in the course of the canaliculus, one of the larger probes is passed down in the direction of the nasal duct in order to explore the state of that passage. Should a tight stricture be felt in this part of the lacrymal tract, it may be well to dilate it gradually by the very cautious use of the smaller probes (Nos. 3 and 4) although this would seem not to have been the original practice of Mr. BOWMAN.

The proportion of cases in which stricture or obstruction exists in the course of the canaliculi, is given by Mr. BOWMAN as not more than one-fourth of the whole number; the common situation of the stricture being close to the sac, more rarely about the middle of the length of the canal. In the latter case attempts should be made to pass the obstruction by one of the finer probes, and gradually to dilate the passage by using successively larger ones, exactly as in treating stricture of the urethra. If the obstruction is at the entrance of the canaliculus into the sac, it may very probably depend upon the presence of a valvular fold of membrane at this point, and may frequently be overcome by a little adroitness in manipulating the probe. If, however, the obstruction appears insurmountable by such means, or when, for any reason, it is important to treat the case expeditiously, there is no objection to the use of a moderate degree of force, or, failing in this, to the division or puncture of the obstructing membrane by means of the ingenious and now well-known canula-lancet, devised by Mr. BOWMAN for this purpose, or of his more recently invented guarded knife. In the absence of these special instruments, we have used a small exploring trocar, and have

even employed for the purpose an ordinary couching needle passed cautiously along the canaliculus to a depth previously measured by the probe.

After having thus overcome any obstruction to the passage of the probes into the sac, the exploration, and, if necessary, the dilatation of the nasal duct may be undertaken: the passage of the larger probes used for this purpose serves also to maintain the patency of the dilated canaliculus.

Mr. BOWMAN also contrived a bent style to be inserted by the lower canaliculus, and worn for a longer or shorter period: "The styles could be generally worn with very little inconvenience for a few days, and admitted of being readily removed and reinserted." They may, however, he states, occasion trouble if badly fitted or left in too long, for which reason he prefers "to treat the obstructions in almost all cases by the intermittent use of the probe, as already described."

In the different methods which have been thus far noticed for dilating strictures of the nasal duct by probes or styles passed by the way of the puncta or canaliculi, the size of the largest probe is necessarily limited to the diameter of the slightly stretched canaliculus. In the belief that it may be desirable to use larger instruments, many surgeons have adopted the plan of slitting up the entire length of the canaliculus into the lacrymal sac, thus converting that duct into an open groove, leading to a large artificial communication between the conjunctival and lacrymal sacs. Through this large artificial opening enormous probes or styles are readily introduced, but the very free incisions necessarily involve considerable interference with the integrity of the parts. This total division of the wall of the canaliculus affords, also, to an impatient operator an easy method of passing any obstruction which may happen to exist in the course of that duct or at its entrance into the lacrymal sac, even though he may not design to employ the larger probes or styles. For these reasons a very free incision into the lacrymal sac is now

much practiced, notwithstanding that it involves the destruction of the canaliculus, which seems to be valued by some surgeons only as a convenient guide to the probe and knife.

When this method of total division of the canaliculus has been adopted for the purpose of passing large probes or styles, the upper punctum is generally preferred. WEBER (*Archiv fuer Ophthalmologie*, Vol. viii., Berlin, 1861) advises the use of elastic sounds and conical wax bougies, having a maximum diameter at the largest point equal to four millimetres (.16 inch).

FIGURE 3.—Dr. WILLIAMS' styles for dilating the nasal duct by way of an opening made by slitting up the upper canaliculus.

Dr. E. WILLIAMS, of Cincinnati, U. S., treats all obstructions of the nasal duct by styles (Fig. 3) of increasing size, introduced through a free opening made by dividing the upper canaliculus, and worn during a period of several weeks. The largest of these styles have a diameter of about three millimeters (1-8th of an inch). In connection with the use of the large probes or styles, both these surgeons insist strongly upon the importance of local medication of the sac by means of solutions of zinc or copper salts, which can be very readily injected by any ordinary syringe of small size.

Of the different plans which have been noticed, each has its especial advantages and disadvantages. Each is admirably adapted to a certain class of cases, but no one of them deserves to be adopted as a general method to the exclusion of the others. Taken together they afford the best means known of treating all cases of lacrymal obstructions and disease of the lacrymal sac.

In comparing these different methods it may be assumed that, other things being equal, that plan is to be preferred which interferes least with the integrity of the parts, or, in other words, which leaves them at the end of the treatment most nearly in their normal condition. To this remark we may except the limited division of the punctum, as advised

by Mr. BOWMAN, for the short slit left by this method in the place of the punctum seems perfectly to fulfill all the purposes of the natural opening. As compared with the method of Mr. TRAVERS and Dr. HAYS, Mr. BOWMAN'S plan has the advantage of somewhat greater facility of execution in the first stages of the treatment, without, however, offering any material advantages either as regards the size of the probes which can be used subsequently, or the employment of injections, etc.

As regards the plan of slitting up the canaliculi into the lacrymal sac, we can only say that the destruction of these ducts constitutes, as it seems to us, a real mutilation, and is, therefore, not to be undertaken without good and sufficient reason. The large opening which is thus made into the lacrymal sac is of great advantage *in certain cases*, by admitting probes or styles of a size very much larger than the calibre of the canaliculi; but the experience of Mr. BOWMAN, and of very many surgeons who employ his method almost to the exclusion of all others, proves that in the great majority of cases the smaller probes or styles are quite sufficient, and, in the comparatively small number of cases in which they prove to be insufficient, the previous trial of this plan in no way precludes or interferes with the subsequent adoption of more radical measures. We would, then, most earnestly advise against the practice of employing such free incisions as a general method, but would reserve them for those exceptional cases in which the mere division of the punctum is manifestly insufficient, or proves to be so upon trial.

A most important practical objection to the plan of destroying the canaliculi by slitting them into the lacrymal sac, is found in the danger of the spontaneous closure, by cicatrization, of the artificial opening, after the conclusion of the treatment and supposed cure of the disease. This result is not very uncommon, but it often escapes the cognizance of the surgeon, for the reason that, in the absence of other complications, the stillicidium lacrymarum

is not very troublesome, and so the patient may not return for further treatment; or, in case of a less fortunate result, he concludes that the suffering which he has endured from the treatment has been fruitless, and therefore either dispenses with further advice, or perhaps applies to some other surgeon.

As regards the relative advantages of dilatation of the obstructed nasal duct by the intermittent use of probes or by the employment of styles, the evidence is very strong in favor of both plans. Mr. BOWMAN states his preference quite strongly in favor of the probes as a general method, while Dr. HAYS inclines to the use of the styles, but allows them to be worn only for a period of from one to twelve hours, and only at intervals of from four to eight days. Dr. WILLIAMS, who uses the very large styles which have been already described, directs that they shall be worn during the whole course of the treatment, or for a period of from six weeks to three months, removing them daily for a few minutes in order to inject the sac.

Upon no subject connected with the treatment of obstruction of the nasal duct by the permanent use of styles is the verdict of modern experience more decisive than in the general condemnation of *small* styles (of 1-20th of an inch or less in diameter) worn permanently. Such small styles often afford relief, it is true, so long as they are worn, but they do not sufficiently dilate the nasal duct to insure against its spontaneous occlusion after discontinuing their use. Styles to be worn during the whole course of the treatment must be *large*, in order that the subsequent inevitable contraction of the walls of the duct may not reduce its calibre much below the normal condition. If small styles are used, they should be worn only for a few hours at a time, and at intervals of several days.

Upon the relative advantages of passing the probes or styles by the way of the upper or of the lower canaliculus, opinions are also divided. Mr. TRAVERS, in cases in which he employed the style, was in the habit of introducing it

alternately by way of the upper and lower puncta, while Dr. HAYS always introduces it through the lower punctum; Mr. BOWMAN also introduces the probes, and styles when he uses them, by the lower canaliculus. WEBER and Dr. WILLIAMS, on the other hand, prefer to open the sac by slitting up the upper canaliculus, as affording a straighter and more direct passage into the lacrymal sac and nasal duct. If either canaliculus is to be sacrificed in the operation it is undoubtedly better that it should be the upper, but in the employment of methods which require only the dilatation or division of the puncta, it would seem to be of little consequence which is selected: there may perhaps be an advantage sometimes in alternating from one to the other, as was practiced by Mr. TRAVERS.

Injections of water, or of weak saline or astringent solutions, are useful in nearly all stages of the treatment. They are especially indicated, however, towards the end of the cure, after the discontinuance of the use of the probes or styles. By this course, also, we keep the patient somewhat longer under observation, and are in a position promptly to detect and remedy any tendency to the return of the obstruction. Stronger solutions, such as sulphate of copper 1-48th to 1-24th, or acetate of lead 1-48th, as employed by WEBER and WILLIAMS, are also important adjuncts to the other treatment in cases of thickening, granulation, or chronic suppuration of the sac; but they need to be used with discrimination, and are only required in the more obstinate chronic cases.

Having now noticed, and, to some extent, discussed the various methods which may be successfully employed in the treatment of lacrymal obstructions and disease of the lacrymal sac, it remains to lay down a few general principles of treatment with a view to the selection of the method best adapted to any particular case.

The method of Mr. TRAVERS, and Dr. HAYS, and that of Mr. BOWMAN, especially commend themselves by their slight interference with the integrity of the parts. We

have employed both methods in practice, and while, with Dr. HAYS, we are convinced that probes of the requisite diameter can be passed through the puncta by simple dilatation of those orifices, we nevertheless prefer, with Mr. BOWMAN, slightly to enlarge the entrance into the canaliculi by a limited incision. This incision, we think, should, as a rule, be restricted to a length of a twelfth, or a sixteenth of an inch. In order the better to regulate and limit the length of the incision, especially in unquiet patients, we employ a pair of fine scissors made for the purpose, with one of its blades prolonged about a twelfth of an inch into a slender probe. (Fig. 4). With these scissors it is, of course, impossible to make a very long incision, and it is for this very reason that we have devised them, and especially recommend their adoption. In order to keep the little slit open, it is well to pass a probe between the cut edges on the day after the operation, and perhaps again on the second day.

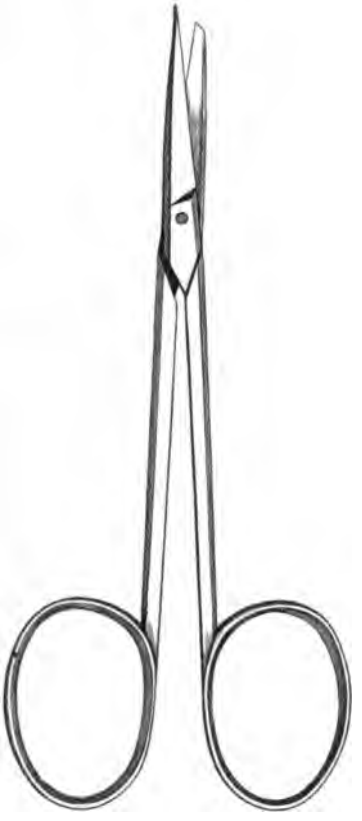


FIG. 4.—Scissors for dividing the punctum lacrymale.

Having thus gained an easy entrance into the canaliculus, that duct may be at once explored by means of one of the smaller probes, Nos. 1 or 2, followed, if no obstruction is encountered, by Nos. 3, 4, 5, and 6. Any obstruction which may be found in the course of the canaliculus, or at

its entrance into the sac, is to be overcome rather by patience and adroitness than by force. When once passed by even the smallest probe, there is generally no difficulty in rapidly dilating the strictured part to the full size of the canal. In obstinate cases it may sometimes be convenient to resort to puncture of a valvular obstruction by means of the canula-lancet, or other similar instrument, but this is rarely necessary. Very firm strictures of the canal may also be dilated by fine probes made of catgut, or, still better, of the stem of the *laminaria digitata*, which swell by the absorption of water, and so exert strong and rapid dilating action.

When once the lacrymal sac has been reached with a probe of sufficient size (Nos. 4 to 6), the sac and nasal duct are to be explored by bringing the probe into a nearly vertical direction, but with its upper end resting against the eye-brow and inclined a little inwards, and cautiously and gently pushing it onward until it reaches the cavity of the nose. This fact is readily ascertained by the characteristic sensation in the nostril, and, in addition, by the slight stain of blood upon the handkerchief observed on blowing the nose.

Having explored the whole extent of the lacrymal passage, the probe may either be withdrawn immediately, or it may be left *in situ* for a few minutes or longer. If a probe is to be worn for an hour, or for several hours, the shorter and slightly bent probes or styles of Dr. HAYS' are much more convenient than the longer and straight probes of Mr. BOWMAN.

Whichever of these plans is followed, it must be remembered that the immediate effect of the passage of the probe is to produce a certain degree of irritation, with more or less swelling of the walls of the sac and nasal duct. With the subsidence of this swelling, however, a certain degree of absorption of the thickened tissues takes place, leaving the calibre of the duct a little larger than before. Subsequent probings with successively larger instruments add to

this effect, until at last the duct is sufficiently enlarged to perform its function. It follows, then, that in order to be effective the probing should not be too often repeated; especially if much resistance is experienced in the passage of the probe, or if much irritation follows it. As a general rule, the probing should not be repeated until the irritation has wholly subsided, whether it be after a delay of a day or two, or of a week or more. Sometimes the passage of the probe through a duct but slightly obstructed is so easy, and is attended by so little irritation, as to admit of its repetition every day or every other day, but in the majority of cases we have succeeded very much better, and have completed the cure in a shorter time, by passing the instrument only once or twice a week; and this accords, also, with the practice of Mr. BOWMAN and of Dr. HAYS. If the styles are used as advised by Dr. HAYS, it may probably be desirable to pass them at somewhat greater intervals than if the passages are merely probed.

When all irritation has subsided, and the passages are so far restored to their normal condition as readily to admit the larger probes (Nos. 5 and 6), the cure may be considered as practically terminated; but it is still advisable to keep the patient for a time under observation, using occasional injections of warm water, or of some mild astringent or saline solution. By this course any change in the condition of the parts is readily detected, and in case of any signs of the return of the obstruction, recourse may be again had to the probe before the obstruction has become serious.

By these methods we are convinced that a very large proportion of the cases of lacrymal obstructions, as they occur in practice, can be readily and permanently cured. There will always occur, however, a certain number of cases in which the disease has become chronic, and in which great alterations have taken place in the structure of the parts. Among the possible changes of this kind may be mentioned great distention of the lacrymal sac forming

the large external tumor called *mucocele;* or the whole lining membrane of the sac may be in a state of chronic suppuration with ulceration; or the whole sac may, perhaps, be obstructed by fungoid granulations like those often seen covering the conjunctiva in certain forms of ophthalmia; or the disease may possibly be complicated by caries. It may happen, also, that an acute abscess of the lacrymal sac may be attended with such swelling as to render it impossible to evacuate its contents through the canaliculi; or the patient may be young and unmanageable; or it may be that he can only be seen a few times, and that the case must be afterward cared for by persons not especially skilled in ophthalmic surgery; or the case may, for some unknown reason, have proved intractable under apparently well directed treatment. For these, and probably for many other reasons, it may often be desirable to gain freer access to the lacrymal sac than can be afforded by way of the puncta or canaliculi. In this case the only choice is between an external opening through the skin, or an internal one which shall communicate with the sac of the conjunctiva. Of these two plans the latter is almost always to be chosen as affording the readiest means of access to the interior of the sac for treatment by large bougies or styles or by injections; and if, in a case of acute abscess, it is deemed advisable to give egress to the pus through an external incision, it will still be necessary to treat the remaining disease of the sac by means of probes, or by injections through the natural passages.

The operation for laying open the whole length of the canaliculus may be performed either with fine pointed scissors (E. WILLIAMS), or by a slender probe-pointed knife (WEBER). If the knife is used, its point may be carried into the sac so as to enlarge the incision to any desirable or undesirable extent. Through this opening, except when the operation is performed for the evacuation of the contents of an acute abscess, the lacrymal sac and nasal duct may be at once explored, and the treatment

of the obstruction commenced by passing a probe or inserting a style. If a style is used there is not the same necessity for a very large opening into the sac as in the plan of treatment by probing and injections only: in fact it is generally quite sufficient if the incision merely includes the whole extent of the canaliculus without involving the proper wall of the sac; for experience has proved that when the canaliculus has been fully split open, the natural orifice into the sac may be dilated to at least the same extent and quite as rapidly as the contracted nasal duct. For this reason, as well as from the conviction that the treatment by the large styles is, on the whole, easier and more efficient than by the occasional passage of probes or bougies, we prefer the method of Dr. WILLIAMS to that of WEBER. Especially would we commend the method of Dr. WILLIAMS as admirably adapted to a large proportion of the severer cases which occur in hospital and dispensary practice, and which must of necessity be treated under many and great disadvantages. In this class of cases we believe that it should altogether supersede the severe and destructive methods of external incision of the sac and destruction of its mucous lining by escharotics or the actual cautery.

616 LOCUST STREET, Nov. 18, 1867.

A CASE OF FAVUS UPON THE BODY AND LIMBS,

with remarks by G. BAUMGARTEN, M.D., of St. Louis.

The following abstract has been kindly furnished, by Prof. E. H. GREGORY, of a case in question which is rare enough, and so remarkable for its excessive development,—having been left to itself without the interference of treatment of any kind whatever, even of acts of personal cleanliness,—that it was deemed worthy of publication as a notable example of the natural history of favus:

"A singular specimen of a tolerably well-known cutaneous disease came under our observation recently.

JAMES MILTON SIMMONS, an exceedingly fragile youth, aged 17 years, a native of Stoddard county, Missouri, a good type of the strumous diathesis, presented himself at the Sisters' Hospital about the last week in September. He was stunted in body and mind, not larger nor smarter than boys of ten years, about which age he became the subject of the distemper which we propose to describe.

His head was encased—there being little hair—in a multitude of crusts several lines in thickness, very dry, and of a dirty white or yellowish color. The disease was confined to this part for more than five years, but for a year past had extended till it had distributed itself over the entire body, where the appearance of the eruption was so curious as to suggest the idea that the boy had been exposed to a shower of somewhat consistent mortar, the falling masses about the size of an ordinary nutmeg, some of the drops (the most recent crusts) maintaining a conical shape, rising to the height of a half or three-fourths of an inch, and measuring more at their base. Others were spread out as large as a half dollar, and seemingly so warped and cracked in the drying process as to make it possible to insinuate the finger-nail under their borders. The crusts

were easily detached without pain or hæmorrhage and rested upon the true skin, which was slightly depressed and moist, and of a dark brown color. In the beginning—as we watched the initial steps—the crust was a mere point, not larger than a pin head and about the color, augmenting in size by accretion and amalgamation with contiguous points. The earliest point was perfectly dry, as was the completed crust, there being no serum or pus from beginning to end."

The diagnosis of this case by inspection alone was simple enough, for the scalp presented the usual appearance of tinea favosa in unmistakable characters; yet, so striking was the appearance of the back and extremities, so enormous the development which the mortar-like masses had attained, as to detract attention from the head. The face and neck, hands and feet were entirely free from the disease; the back, arms, and legs were thickly studded with crusts; the front of the trunk was less densely covered, but the great number of pigmented spots on this part gave evidence of the previous great extent of the disease. The right arm of the boy is well represented in the attached wood-cut (after a photograph), and gives a good idea of the appearance of all the affected parts. (Fig. 5.)

The diagnosis "favus" was easily verified by the microscope. The entire mass of these large crusts is composed of the spores and thalli of the fungus of favus, *Achorion Schœnleinii*, with but little admixture of epithelial scales. The latter occur mostly in clumps around a hair, and do not usually appear as the dried horny scales of the outermost layer of the cuticle, but are well characterized, flat, nucleated cells of oval outline, derived from deeper layers. The fungous masses consist mostly of oval (and some round) spores, measuring .004–.005 mm. trans-

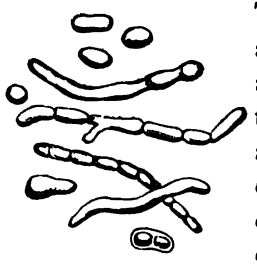
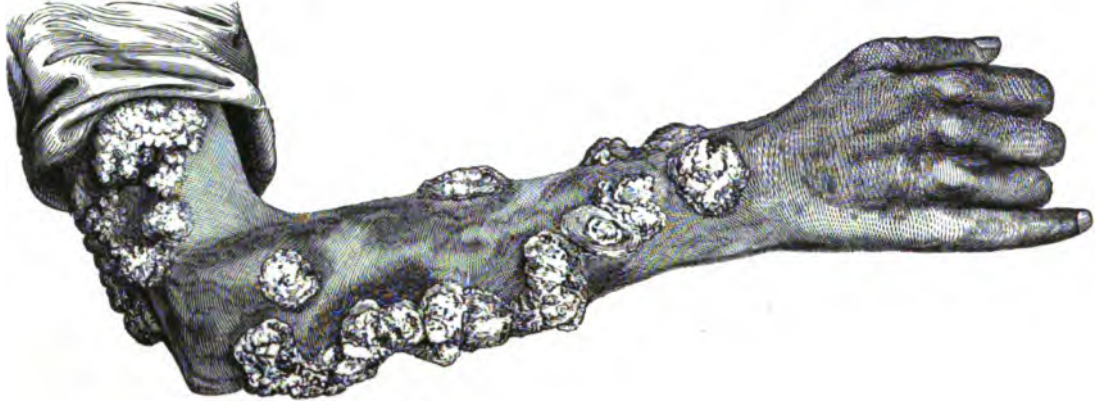


Figure 6.



FAVUS.

Case of JAMES MILTON SIMMONS, of Stoddard Co., Missouri, aged 17.—Sept. 22, 1867.

ST. LOUIS MED. & SURG. JOURN., Vol. V., Fig. 5.] [From a Photograph.

versely, and .005–.007 mm. in their long diameter, and of beaded threads of about the same breadth, rarely budding (Fig. 6); besides these there are some mycelial filaments of much greater length, but seldom more than .003 mm. broad, some of which are segmented and branching, others without septa, and many containing spores. (Fig. 7.) These are the only signs of reproduction recognizable in the scabs; no true heads of fructification could be found.

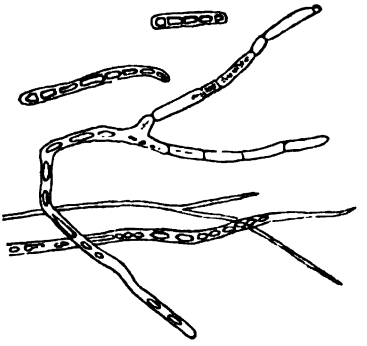


Figure 7.

For the sake of comparison, I will briefly allude to a case of favus upon the face and arms, for the history of which I am indebted to Dr. ENGELMANN. According to his report, this case (which occurred some seven years ago) presented a widely different appearance from the one just described; the crusts were small, mostly of about the size of a pea, but flat and thin, and looked like drops of white paint spattered over the skin and allowed to dry there. The disease had been transmitted to the patient from his wife whose entire scalp was affected, and was remarkable in that it did not originate on the scalp, but had first appeared on the side of the face, contrary to the more usual mode of invasion. The microscopical features of these thin crusts—Fig 8. is a copy of a sketch taken at the time—differed from those of the large masses in Dr. GREGORY'S case by the entire absence of those mycelial threads represented in Fig. 3, which, of course, signify a more advanced stage of development. This difference may be naturally

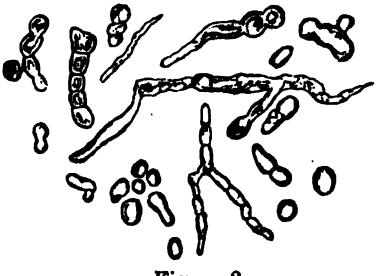


Figure 8.

attributed to the greater mass and more luxuriant vegetation of the latter case; but it may likewise be due to the more direct and constant exposure of thin crusts to the acid secretion of the skin, which has been shown to be unfavorable to the development of what may be called the higher form of the fungus.

As to the nature of this fungus, a few words concerning the late researches of mycologists may not be amiss. TILBURY FOX,* and some other authors, assert the unity or identity of most or all of the epiphytes of the human body, believing the fungi of favus, herpes tonsurans and circinnatus, of pityriasis versicolor, of sycosis, etc., to be different stages and modifications of development of *Aspergillus*. In an experiment of cultivation which I instituted in an isolating apparatus, immediately after the receipt of the crust, the result was different. A small portion of the mass was placed into a thin starch paste mixed with a few drops of milk, boiled for more than ten minutes in a test-tube previously disinfected by heat, and provided only with air filtered through cotton also purified,—in short, with such precautions as to absolutely exclude all germs from outside except such as were contained in the crust. An abundant crop of *Penicillium* was obtained in six days.

In the course of study to which this result invited me, I have found reason to believe that it was correct. REMAK is said to have seen penicillium develop from the achorion on apple, but to have drawn a negative inference. Prof. HALLIER,† of Jena, however, probably the most assiduous student of the subject at this time, expressly defines the achorion of favus as the "*oidium*-form" of *Penicillium crustaceum* (*s. glaucum*) (the ordinary mould fungus, the developed form of the common yeast and of the *Oidium lactis*); for he has always raised penicillium from achorion

* Skin Diseases of Parasitic Origin: Their Nature and Treatment. London, 1863. 8vo.

† Gæhrungserscheinungen. Leipzig, 1867. 8vo.

in a long series of cultures in the most carefully arranged isolating apparatus; he has cultivated from penicillium oidium-forms which could not be distinguished from achorion; he has observed the progressive vegetation of the achorion conidia (of favus) upon the slide until the formation of the first pencil of fructification; and finally, a cutaneous disease answering to the diagnostic marks of favus has been produced upon the human body from the spores of the penicillium.

By a similar train of facts, and with like certainty, the identity of the fungus of pityriasis versicolor (*Microsporon furfur*) and of herpes tonsurans and circinnatus (*Trichophyton*) with *Aspergillus*, another mould fungus of frequent occurrence, has been proven.

We may consider it a well-established fact, therefore, that most of the vegetable parasites of the cutaneous surface are, as HEBRA correctly surmised, very common fungi, well known in various forms and stages of development outside of the human body, which are compelled, by the conditions of the given soil, to maintain a certain form or stage of their vegetation, and to multiply in a confined circle of reproductive metamorphosis without true fructification.

SYPHILIZATION.

By J. Z. HALL, M.D., of St. Louis.

A correspondent of this journal, S. H. FRAZER, who has written several very interesting letters on Syphilis, makes some very extraordinary statements in his late letter, which I wish to notice. He says, "that the treatment by syphilization is dead since the dualistic theory is a complete refutation of it." If that is the case, it is another extraordinary instance where theory is made to modify the facts, instead of the latter making and substantiating the theory; and this, too, by the matter-of-fact men

who hate theories and only want the facts. I was always taught that the converse of this was the logical method to be adopted. Instead of the dualistic theory being a refutation of syphilization, the latter, in my opinion, is a complete refutation of it; syphilization being a *fait accompli* the dualistic theory must be reconciled to it. I believe, with your correspondent, that if the dualistic theory is true, syphilization is not only refuted but rendered impossible. This theory asserts: 1st. That the chancroid or venereal virus has no constitutional effect; and hence would not, by its repetition or prolonged action, modify or cure constitutional symptoms. 2d. The Hunterian or indurated chancre is not auto-inoculable, hence could not be repeated on the same patient—and hence would not serve for the process of syphilization; consequently, a cure of constitutional symptoms according to this theory is impossible, and if it can not be done—*ergo*, it never has been done—is the conclusion. TURENNE, BOECK, SPERINO, and others have been mistaken. They must be content with this back-handed compliment paid to them by this student of medicine, for as he says: "At the time when Turenne made his first trials in syphilization the two varieties were confounded," we may conclude either, 1st, that the individual submitted to the experiment was syphilitic, in which case inoculation from indurated chancres were without effect, but the soft chancre could be indefinitely multiplied (hence no constitutional cure or immunity); or, 2d, that the individual was free from syphilis. In this case, the first inoculation practiced with the virus of an indurated chancre gave syphilis, and placed the person in the first category; *i. e.*, the syphilitic inoculation no longer produced any result, while soft chancres could be produced without limit.

It will be seen that in order to establish the dualistic theory according to this correspondent, it is necessary to accuse them of, 1st, giving syphilis to patients; 2d, of employing the indurated chancre when according to the theory it can not be repeated; 3d, of publishing that immu-

nity was attained on patients who were treated by repeated inoculations of chancroid pus, when according to the theory this peculiar kind of sores can be repeated without limit; and 4th, of publishing cures of constitutional syphilis produced by the repeated inoculations with a virus which has no effect beyond its immediate site. Of course, according to this theory, there could be no such thing as syphilization. The hard virus can not be used—is not inoculable; the soft virus is local simply in its effects, and hence could not cure constitutional symptoms. I assert that neither one of the above conclusions will apply to those who have practiced syphilization. That they have published the truth, I can safely state, having observed and treated more than one hundred cases by the process of syphilization. I assert, also, that where the inoculations have been sufficiently repeated, a condition of immunity has always been the result; that the indurated chancre, if it suppurates freely, can be employed, but its induration will not be transmitted; hence the progeny of the two kinds of sore are the same, and will ultimately degenerate into an amorphous pustule by repetition. I have produced them often on the same patient, and no difference could be detected by well educated physicians. If one of the repeated progeny became indurated, this was the rare exception. Says SIGMUND: "It is settled that in patients with secondary syphilis, inoculation produces soft chancres only, even if the virus be taken from well defined hard ones." (*Wien. Wochenschr.*, 1859.) BOECK and DONELSON saw hard chancre virus produce regular soft chancres. (*Wien. Ztsch.* xi. 12.) M. AUZIAS TURENNE, in his 53d proposition, says: "It is seldom in an animal which may be submitted to a succession of chancres that one at least does not become indurated; but when this induration appears in one or two, it does not show itself in those which follow." (*Traité des Maladies Vénériennes, Maisonneuve et Montanier*, p. 466.)

All forms of syphilis are either suppurative or non-suppurative; the former being the zymosis in activity, the latter

the same in partial arrest, without producing a physiological return, but successive pathological changes. The dualistic theory is based upon the curative effects of suppurative syphilis, and has done a vast amount of good, inasmuch as it has saved many patients from inordinate and injurious dosing, while it ignores and denies any relation of this form of syphilis to the non-suppurating. This relation is proven: 1st. By all the cases of constitutional syphilis modified or cured by the repeated inoculations of the virus of a soft or hard chancre (the latter being repeated will be transformed into the former variety). 2d. By the immunity obtained in these cases. (See MALGAIGNE's Challenge to RICORD; HOLMES' System of Surgery, Art. Syph., Vol. 1.) The immunity obtained by the Portuguese, and in certain Russian and German regiments by a process of natural syphilization—*i. e.*, repeated suppurative buboes or chancres. 3d. In cases of long standing constitutional syphilis affected with nodes and periostitis, the sequel of many so-called mercurial cures, the inoculations will produce exacerbation of symptoms, severe pain in the nodes and bones affected, and in the inflamed periosteum, which will sometimes last until the chancres have run their course, not always relieved by iodide of potash. This pain is much more intense than the ordinary osteocope occuring in this class of cases at every change in the specific gravity of the atmosphere. The unpopularity of syphilization is no doubt due in some measure to the severe pain endured by this class of cases; being in a condition intractable to further drug medication, they would try syphilization as a *dernier ressort*. The exacerbation of symptoms would make a bad impression on superficial observers, and the final result ignored.

If these facts do not show the relation of suppurative syphilis to the constitutional variety, I would like to know what particular kind of facts are necessary.

The pretended complete saturation of the system with the virus of an indurated chancre which is not auto-inoculable, and can not be repeated, or with the virus of a non-indurated

which has simply a local effect, is saturated nonsense. Are patients cured of small pox or measles saturated with these poisons? Your correspondent, speaking of the experience of Dr. BOECK, says (p. 347): "He cures syphilis in five or six months, whereas mercurial preparations will do the same in one-fourth of the time." If this is true with reference to mercury, of course it would be foolish to ever practice syphilization. Only one month and a half to cure all cases of constitutional syphilis, for no exceptions are made! At whose clinic are they turned out cured by mercurial preparations in six weeks? And can not the same result be obtained here by men who have taken the pains to visit those clinics, and who have had ample opportunity to put into practice all they have learned? Why did Dr. BOECK refuse to treat certain cases which had been under mercurial treatment for a long time? Because they were not only not cured but in an incurable condition. It would not be difficult to find quite a number of cases, and not go out of St. Louis, which have been treated by mercurial and other preparations from one to ten years, and they are not cured yet. I know of four cases of constitutional syphilis which have been treated seven years by the various anti-syphilitics, including mercurial preparations, and they are not cured yet, although three of them have gone through the process of syphilization with marked improvement of symptoms.

Three years' observation in the army has taught me that many cases treated by mercury are in the following condition: Always tenderness of the sternum and stomach; periostitis occasionally; also nodes; weight of body less than the maximum when in health; periodic rheumatism, always more or less relieved by iodide of potash; blood hydræmic; have a low grade of fever; inability to withstand exposure; appetite delicate and capricious. Many cases are walking barometers, accurately foretelling the coming storm although out of sight of clouds or sky. On the contrary, cases cured by syphilization exhibit none of

these pathological symptoms (and I can show quite a number who have been cured since six or seven years); they have all regained their maximum weight—many have exceeded it; dyspepsia always supplanted by sound stomach and good appetite; are not affected by any change in the weather; are perfectly free from pains and aches; and, in short, they are sound and hearty as they ever were, and are not, as a general rule, subject to sickness of any kind. The results of the two methods of treatment are not the same, and from their very nature can not be. Mercury arrests the manifestations of syphilis. They being liberated by the vitality, and localized on the skin, are called accidents by some writers, more particularly the French; but these so-called accidents are nothing more than liberated, veritable certainties, or manifestations of the same uncured syphilis. Now, syphilization is nothing but the completion of a movement set up by the particular poison of syphilis, and as all the manifestations of syphilis are but indices, showing only different stages of the movement, which may be in activity or in partial arrest, this movement or transition involves the ultimate cell, and it either dies and is eliminated or has its physiological return to health.

Let us take a case to illustrate where the two kinds of treatment have been tried on the same patient out of fifteen similar cases I could produce:

G. W. H., admitted to the City Hospital, St. Louis, October 30th, 1866. Has had syphilis four years, for which he has been under treatment more or less constantly. Since October has been treated with bichloride and proto-iodide of mercury, alternating with iodide of potash.

January 13th, 1867.—Notwithstanding all the medication he has received, he presents the following condition: Engorged glands of the neck; papular eruption on face, breast, neck, and back; mouth and throat ulcerated; chancre on penis—which had been cauterized and healed some time, but would break out again. Dr. RENICK, under whose care he had been, declared that it was indurated, as

it had been cauterized so many times, and although there was some induration, it might be attributed to the latter.

January 14th.—Pus was taken from the sore and inserted in the middle of the right arm beneath the skin.

January 15th.—Inoculation taken, showing a small pimple with an inflamed base and small amount of pus in the centre; is taking no medicine. (It will be observed that this virus had no period of incubation; there was, according to the feeling of the patient, an action going on from the moment of insertion.)

January 16th.—Chancre on penis discharging freely, and on the arm cauterants abandoned.

January 31.—Inoculated left arm with pus taken from suppurating bubo in the groin of another, it having on one side an indurated margin; chancre on penis nearly healed; also ulcers in mouth and throat.

March 1st.—Sores on arms discharging; ulcers in mouth disappeared; also eruption on the face, back, and breast has undergone a change; chancre on penis healed.

March 5th.—Chancre on penis appeared again one-fourth its former size in the same place.

March 7th.—All symptoms improving; eruption on the back disappearing; throat sound; chancre on penis cauterized. Inoculated left thigh with pus from a recent chancre taken from another; indurated and much inflamed.

March 9th.—Inoculation taken; chancre on penis healed, also sores on arms; is able to work; has good appetite; is gaining in weight.

March 10th.—Sore on thigh as large as a quarter of a dollar, whilst those on the arms were only about the size of a dime (silver); the former secretes a sanious pus; the secretions of the latter were white, and without odor; the patient, after helping to wash the balconies, has fugitive pains in the joints; ordered iodide potash v grs., thrice daily; says he feels well every way; the sore on thigh is irritated by working; all manifestations of the disease are confined to this sore.

March 20.—Sore on thigh healed; some scattering pustules very small on neck and breast, which are fast disappearing; this was a recent crop unlike any eruption which had preceded it; does not interfere with his health; has worked every day since the 10th; thinks the treatment has saved him from a diseased, disabled, and intolerable condition. He has been sound and hearty since.

This case was never free from manifestations of syphilis for four years, although for the most part of the time he was taking preparations of mercury, which, if it had suspended them for any length of time and afterwards they should reappear, they would have been called no doubt by many syphilographers, *accidents;* more especially if the accident came in the shape of an eruption on the skin. But internal syphilis is just as veritable a certainty as when prominent upon the external surface of the body. Details of other cases might be given, but they would make this article too lengthy. I will state the result of my observations for the last ten years in the form of propositions:

1st. Syphilis is a zymotic disease; *i. e.*, self-curative when allowed to complete its own movement.

2d. All of its manifestations may be generalized under two forms: suppurative and non-suppurative; indurated and non-indurated; the one may be called active, and the other passive.

3d. Under the head of passive syphilis may be arranged all so-called constitutional manifestations, eruptions, indurated glands, nodes, periostitis, indurated portion of Hunterian or indurated chancre.

4th. Under the head of active syphilis may be arranged all forms of suppurative syphilis, occurring either in glands, chancroids, or suppurative portion of an indurated chancre.

5th. In order to complete the movement of syphilis, these two forms must run their course or be balanced against each other in the same individual, which is accomplished by the process of syphilization.

6th. The indurated chancre has a period of incubation, as have all so-called secondary lesions; its indurated portion will not be repeated in the successive sores produced by its pus, hence the progeny of the two sores, chancre and chancroid, ultimately become the same.

7th. Many of the cures attributed to drugs are cured by a natural process of syphilization; *i. e.*, suppurating glands. Mercury often changes the form of the syphilitic manifestations from the skin to the bones, and often arrests them by lowering the vitality of the patient, and arresting the natural metamorphosis of tissue.

OCTOBER, 1867.

AN ATTEMPT TO OBVIATE THE NECESSITY OF A TOO PROFUSE AND CONSTANT EMPLOYMENT OF QUININE IN THE TREATMENT OF INTERMITTENT FEVERS.

By E. MONTGOMERY, M.D., of St. Louis.

For many years past the writer has been testing the efficacy of various remedies and different combinations of remedies, with a view of superseding, as far as possible, the extravagant use of quinine. Not because this most excellent alkaloid is in itself hurtful to the constitution of the patient, or even likely to produce serious mischief even when given injudiciously, but because there is a great amount of prejudice in the community against it; and also from the fact, that in many old chronic cases this remedy has been given so long that it has lost its usual salutary effect. Arsenic and its preparations will also be found in most instances inapplicable, or at most of very temporary benefit, causing great irritation in the stomach, pain, anorexia, thirst, and a swelling of the patient which causes great alarm to the friends.

In recent attacks of intermittent fever, if the patient is immersed in a hot bath during the first fever, and allowed to remain in the hot bath for ten minutes, the disease will,

in a great many cases, entirely disappear. But this remedy is not very convenient in practice; the facilities for giving a hot bath to an adult being often unattainable. I should have mentioned that the water should be as hot as the patient can bear it, and it will be all the better to contain about a quart of table salt.

The remedy which I will next mention as being prompt and efficient is chloroform. I believe this powerful agent has been often recommended, and I have found it act like magic in a great many cases. I give a teaspoonful in a tablespoonful of thick simple syrup, in the commencement of the chill, and repeat the dose every half hour until relief is obtained. It is rarely necessary to give more than two doses until the patient is in a quiet, comfortable condition, very little fever and no subsequent chill supervening.

One of the following tonic prescriptions will be found an excellent substitute for quinine, choosing that one which is thought most likely to fulfill the indications presented in each individual case:

℞ Ferri Ferrocyanureti, ʒi
Pulv. Piperini
Ext. Taraxici, ana gr. xx Misce.
Divid. in pil. No. xxx.
S.—3 every 4 hours when free from fever.

Or—

℞ Pulv. Ferri Citratis, ʒij
Glycerini, ℥ij
Tinct. Lyttæ Vesicat., ʒij
Aquæ Puræ, ʒvi Misce.
S.—A tablespoonful every 2 hours in the intermission.

Or—

℞ Pulv. Ferri Citratis, ʒij
Pulv. Pip. Cubebæ, ʒiij
Divid. in chart. No. xii.
S.—One powder every 3 hours in the apyrexia.

It is essentially necessary to premise the use of either of these tonics with an efficient antibilious cathartic, and this to be repeated *pro re nata*. To aid and assist the salutary action of these remedies, an occasional dose of the phosphoric or nitro-hydrochloric acid should be administered.

It will be noticed that all these tonics are to be given in the absence of fever; but there is one remedy besides the hot bath, which should be given in the hot or febrile stage, and this is the bisulphite of soda or magnesia. Twenty grains of either of these hyposulphites should be given every two hours during each febrile stage. The use of the tonics should be kept up for a considerable time after the disappearance of the disease, so as to fortify the system against a relapse or a recurrence of the fever.

I do not claim that the above medicines are superior, or even equal in efficiency to quinine, but in a great many cases where the latter is objectionable or inappropriate I can sincerely recommend to my medical brethren a recourse to the measures above indicated.

DECEMBER, 1867.

Reviews and Bibliographical Notices.

A PRACTICAL GUIDE TO THE STUDY OF DISEASES OF THE EYE: THEIR MEDICAL AND SURGICAL TREATMENT. By HENRY W. WILLIAMS, M.D. Second edition. Revised and enlarged. Boston: Ticknor & Fields. 1867. 12mo., pp. 422.

The great body of medical practitioners in the United States have received very little of systematic instruction in ophthalmology, and have enjoyed only the most meagre facilities for intelligently observing ophthalmic diseases. Some of our schools of medicine have lately recognized this great and crying deficiency, and have established chairs of ophthalmology either in connection with summer courses of lectures, or, in a few cases, in the regular winter session. Others still either wholly ignore the subject, or consign it to the Professor of Surgery, who summarily disposes of it in perhaps half a dozen lectures. The consequence is, that the great majority of even the better educated physicians and surgeons throughout our country bring to the diagnosis and treatment of eye diseases a degree of skill far less than they display in most other departments of practice, leaving the way open for the many and fearful abuses which attend the presumptuous meddling of ignorant and knavish pretenders to the name of oculist.

It is in recognition of this state of things, and in the hope in some degree to remedy it, that the first edition of the work now under consideration was prepared. "It has been the aim of the author," to quote the words of the preface, "to avoid encumbering his work and confusing the reader by the introduction of merely exceptional details,—by an account of every proposed but exploded mode of treatment, or by more than the most sparing use of the too learned technical designations which abound in ophthalmic literature; but he has endeavored to give clear and explicit descriptions of the usual forms of disease, so that the physician may be able to recognize, at once, their distinctive features, and to define the course of treatment best adapted, in a majority of cases, to remove the morbid condition. Some affec-

tions, and certain phases of disease, of rare occurrence and trivial importance, are merely alluded to; enough being said, however, to enable the reader to detect their character, as exceptional cases, and to allow him to consult other works at his leisure, should he wish for complete information regarding them."

That the promises made by the author in his preface are well fulfilled we gladly testify from a familiar acquaintance with the book in its two editions; and, while it is not in any sense either an encyclopædia of ophthalmology or a guide to ophthalmic literature, it is emphatically just what it pretends to be, viz., "*a practical guide*" to the general student of medicine, and especially to the busy practitioner who demands a book which shall be at once easily read and understood, and to which he may refer, as occasion requires, with confidence that he will find the needed information clearly and succinctly given, and with the sanction of the author's own opinion.

Of the great variety of subjects treated, we would especially call attention to the chapter on the examination of the eye, to the simple and comprehensive classification of the affections of the conjunctiva and cornea, and the judicious statement of the indications for treatment, to the chapters on lacrymal obstructions, on injuries of the eye, on affections of the iris, on cataract, and on glaucoma. The theory and use of the ophthalmoscope, the anomalies of refraction and accommodation, and especially, the relation of these to asthenopia and strabismus, as demonstrated by the recent investigations of DONDERS, are treated and illustrated with great clearness, and form a most interesting and important portion of the volume. Upon the treatment of iritis the views of the author are now well known, and have wrought a complete revolution in practice; and now, in this volume, he introduces to our notice a novelty even more striking in the application of a corneal suture in the operation for the extraction of cataract. In the treatment of lacrymal obstructions, the author adopts the now well-known and established method of BOWMAN, which he describes with rare good judgment; but we would gladly have seen, also, a notice of the excellent method of a distinguished American ophthalmologist, Prof. E. WILLIAMS, of Cincinnati, which under certain conditions, and in the treatment of certain forms of lacrymal disease, offers advantages not to be obtained by any other practice.

In conclusion we have only to repeat, that Dr. WILLIAMS' handbook is an eminently useful and practical one, and fully sustains the high reputation of its author. It is by far the best work of its kind in the English language, and we trust it will speedily find its way into the hands of as many of our physicians as are called upon to treat eye diseases in connection with general practice.

The book is admirably printed on tinted paper, and is abundantly illustrated by original and well-executed wood-cuts, and by a full series of test types, based on the "*Letterprœven*" of SNELLEN, which are now almost universally recognized as the standard.

J. G.

INJURIES OF THE EYE, ORBIT, AND EYELIDS: THEIR IMMEDIATE AND REMOTE EFFECTS. By GEORGE LAWSON, F.R.C.S., etc. American reprint. Philadelphia: Henry C. Lea. 1867. 8vo., pp. 408.

This book is a plain and careful resumé of the existing state of opinion and practice at the Royal London Ophthalmic Hospital, Moorfields. The immense number of patients treated annually at this hospital (18,953 new cases in the year 1866, of which no less than 883 were important injuries to the eye-ball), and the eminent ability and high reputation of its large corps of surgeons, combine to make it by far the best place in Europe for the observation and study of the very important class of cases which form the subject of the present work. Scarcely any of the affections of the eye demand so much of good judgment, and so thorough a knowledge of the general principles of ophthalmic surgery as traumatic cases, both on account of their infinite variety, and especially from the fact that the salvation of the eye often depends upon the judiciousness of the treatment adopted during the first days or hours after the receipt of the injury. A knowledge of the immediate effects of injuries of the eye and of their treatment, is therefore an essential part of the education of every physician; while in the diagnosis and treatment of their remoter consequences, there will generally be abundant time and opportunity for consultation, or reference of the case to an expert. This book, therefore, while it contains much which is important to the general practitioner, necessarily includes the discussion of nice points of treatment, operative and other, which can only be

appreciated and applied by those who make ophthalmic surgery a speciality.

To the former of these categories belong the greater part of the chapters *on superficial injuries of the eye, on injuries from burns, scalds, and chemical agents*, and to a considerable extent also, chapter iii., *on penetrating wounds of the eye, and other injuries of the cornea and iris.* The nature and probable consequences, both immediate and remote, of the deeper injuries, as treated in the chapters on *traumatic cataract*, on *capsular opacities and dislocations of the lens*, on *foreign bodies within the eye*, and especially, the important chapter on *sympathetic inflammation of the eye*, should equally be familiar to the general practitioner, although the treatment of these cases often involves the employment of methods of examination, and of operative measures, which are necessarily within the ability of but few.

The chapters on *traumatic cataract* and its sequelae of *capsular opacities* are thorough and judicious, and include a full description of the newest, as well as of the older methods of treatment. Rather too prominent a space is perhaps devoted to the operation for removing softened cataract by suction, a mode of procedure which seems to offer no important advantage over simple linear extraction. Of the three principal methods of dealing with traumatic cataract, viz., by solution, linear extraction in its various modifications, and traction or scoop extraction, the second and third are treated at length by the author, to the exclusion almost of the first. This seems to us to be a grave omission, for in no class of persons is traumatic cataract more frequent than in young children, and in none does the process of solution, after sufficient laceration of the anterior capsule of the lens, progress, as a general rule, more favorably and rapidly; and if, at any stage in the progress of the case, the pressure of undissolved lens substance in the anterior chamber gives rise to symptoms of irritation, we have still the resource of a linear extraction. In a few cases the original wound of the capsule is so large and so nearly central as to render any artificial laceration unnecessary. Such cases generally do well, but it occasionally happens that the softened lens substance produces irritation in consequence of rapid swelling, and so requires to be evacuated either wholly or in part by a small linear incision. Following the teachings of nature in cases of this character, it would certainly appear advisable in young

persons, after the usual free division of the capsule preparatory to linear extraction, to await for a time the probable completion of the cure by solution rather than to insist, as a matter of course, upon a second operation. Linear extraction is, of course, a more expeditious way of disposing of the case, and is, therefore, especially applicable to the practice of an ophthalmic hospital; but in the present class of cases it seems to us that the conditions of private practice demand a somewhat different course of procedure.

The subject of *the deeper injuries of the eye-ball*, such as penetrating wounds, and especially the lodgment of foreign bodies within the eye, is fully and ably discussed, both as regards the immediate indications for treatment, and particularly with reference to the probability of sympathetic inflammation of the other eye. Aside from the local lesions which attend a perforating wound, the continued presence of a foreign body within the eye-ball is almost sure to give rise to severe inflammatory symptoms. In the more fortunate cases this inflammation may be so acute as to lead to speedy suppuration with discharge of the offending body and collapse of the globe; but in the greater number of cases the injured eye remains in a state of chronic irritation, which, sooner or later, is pretty sure to affect the other eye by sympathy, and may thus result in much suffering and total blindness. The probability of the occurrence, possibly after the lapse of months or years, of this insidious and destructive disease as a result of severe injuries of the eye-ball, imposes upon the practitioner to whom the care of such a case is entrusted the imperative duty of most conscientious watchfulness; and if the circumstances of the patient are such as to render such surveillance impracticable, it may be better at once to remove the injured eye-ball by the operation of enucleation, than to run the risk of subsequent implication of the remaining organ.

The chapter on *injuries of the orbit* contains notices of several remarkable cases of foreign bodies embedded in the orbit; also many judicious remarks upon orbital abscess. The final chapter on *injuries of the eyelids*, is good as far as it goes, but a really adequate treatment of the subject would require a volume instead of a single chapter. On a single point we would take issue with the author: "When the canaliculus has been torn through and detached from the punctum, a search should be first made for the divided end of the tear duct. * * * A small director should

be passed up it, and with a cataract knife it should be slit up into the lacrymal sac." Why *into* the sac, and why not content ourselves with a mere slitting of the free end of the severed duct to an extent of perhaps a twelfth or a sixteenth of an inch, leaving the natural opening of the canaliculus into the sac intact? We have seen several cases of cicatricial contraction and final closure of the artificial opening made by slitting the canaliculus into the sac, an accident which we have not known to follow the equally effective operation of dividing only the wall of the canaliculus by an incision of moderate extent.

Of *symblepharon* the author states, that "positive good will be found to follow surgical treatment only in the slight cases in which small membranous bands or tags of adhesion pass between the eyelids and the globe. When these are insulated so that a probe can be passed beneath them, and the oculo-palpebral fold of conjunctiva still exists entire, much benefit will be derived from an operation." In this connection we can only say, that we have seen two cases within the past year in which very thick and fleshy symblephara existed, covering the upper half of the cornea, and causing complete eversion of the palpebral conjunctiva of the upper lid in the attempt to turn the eye downwards. In both cases the adhesion had resulted from chemical injuries, followed by the long continued closure of the eye by a bandage. The result of this malpractice seems to have been an intimate union of the abraded surface of the cornea with the conjunctiva lining the oculo-palpebral fold throughout a space equal to the upper half of the cornea, but leaving the ocular conjunctiva comparatively free, so that a probe could be passed, with a little management, around the fleshy connecting mass. On the division of the symblepharon, or rather on dissecting it carefully off from the cornea, the severed portion immediately retreated with considerable force into the depths of the oculo-palpebral fold, leaving only the healthy conjunctival lining of the upper lid opposed to the denuded surface of the cornea. As the symblepharon had derived its chief supply of blood from the palpebral vessels, the small portions which still remained attached to the cornea rapidly shrivelled, and cicatrization was complete at the end of ten days, with perfect mobility of the eye in all directions. It would seem to us, therefore, that the criterion by which we are to decide upon the practicability of a cure by the division of symblephara is their

isolation through the preservation of the oculo-palpebral fold of conjunctiva, rather than greater or less thickness of the connecting mass.

We would call attention to a few terms employed in the book which seem to us objectionable. The use, in place of *keratitis*, of the barbarous compound of Latin and Greek, "*corneitis*" (p. 77), is really but little less offensive to the classical scholar than would be the combination of the English word *horn* with the same Greek ending. It belongs to the same class as "*tonsillitis*" for *amygdalitis*, "*testitis*" for *orchitis*, "*cutitis*" for *dermatitis*, etc. The term "*traumatic glaucoma*" is applied (p. (131, *et seq.*) to the state of inflammation, attended with increased tension of the eye-ball, which occasionally follows injuries of the lens. A similar increase of tension is often a prominent symptom of iritis, and there would seem to be the same propriety in calling it glaucomatous in the one case as in the other. Excessive tension of the globe, connected with acute inflammation, may lead to serious structural changes, among which we have observed myopia of 1-7 with peculiar but characteristic yielding of the tunics of the eye posteriorly, but it is certainly not proved that this inflammatory distention gives rise to the remarkable excavation of the optic disc, which we now regard as the essential and characteristic feature of glaucoma. If the words *glaucoma* and *glaucomatous* are used by the author in a figurative sense, meaning only that the hardness of the globe is suggestive of that which occurs in true glaucoma, the fact should be explained; but it would be far better, as it appears to us, to avoid confusion by abandoning the term altogether except in its proper and literal application. "*Sympathetic ophthalmia*" (chapter ix.) is a term which is fast acquiring vogue as a substitute for the older and much better term, *sympathetic ophthalmitis*. The word *ophthalmia* has for a long time been used chiefly to designate the more superficial inflammations of the eye in which the affection of the conjunctiva plays a prominent part, while the name *ophthalmitis* has been applied to the deeper inflammations, and especially to those which involve all the tissues. Sympathetic inflammation belongs pre-eminently to this latter class, and we would, therefore, strongly urge the retention of the older and distinctive name. Mr. CRITCHETT'S operation for artificial pupil, by placing a ligature around a prolapsed portion of the iris, has

been named by its author *Iriddesis* (Ἶρις-ιδος, δέσις). This operation has been received with general favor, but not so its name, which is thought by many to grate somewhat harshly on the ear. The consequence is that almost every writer who has been obliged to allude to the operation has taken liberties with its name. Thus we find in different authors such forms as *irido'desis*, *iridodé sis*, and *iridé sis*. Of these forms the first is correct enough, but more uncouth than the original word; the others involve false quantities, and are therefore indefensible: until some better substitute than any of these is offered, we must be pardoned for respecting the right of Mr. CRITCHETT to name his own operation. In the present volume the form adopted is *iridodesis*, but without indication of the writers choice of the syllable to be accented.

One of the most valuable features in Mr. LAWSON'S book is its abundant illustration by characteristic and well reported cases. They have been introduced, as the author justly observes, from the feeling, "that the truthful record of what has been makes a more lasting impression on the mind than the mere detail of what may be." These cases, eighty-nine in number, form no inconsiderable portion of the whole volume, and, in clearness and conciseness of statement and pertinence of the comments upon them, constantly remind the reader of the classical monogram of BRODIE on *diseases of the joints*.

Appended to the book is a set of test-types, purporting to correspond to the Schrift-scalen of Prof. EDWARD JAEGER, of Vienna (not of Berlin, as is incorrectly stated in the caption). Of these it is only necessary to say that they are made up of many different styles of type, and that even in size and numbering they do not at all correspond with the original. No. 1 of JAEGER is the exceptionally small type known to printers as *gem*, or *brilliant*, and No. 2 is the much larger size, *diamond*. In the present instance, *diamond* is numbered 1, and *pearl* 2. In other parts of the series, the abrupt transition from No. 14 (*great primer*) of ordinary book or Bible text, to the heavy-faced poster type of Nos. 15, 16, and 18, and from these to the *condensed antique* of No. 19, and to the excessively heavy-faced No. 20 are inexcusable. Why, indeed, the unmeaning numbers of JAEGER'S scale should be longer retained in competition with the really scientific *Letterprøven* of SNELLEN, we are at a loss to perceive. Even the

original edition of JAEGER has no further merit than that which belongs to the collection of a large number of type specimens of irregular progression as regards size, and not altogether uniform in character, and the substitution of arbitrary numbers for the old familiar names. Whether the responsibility of this travesty of JAEGER lies with the English publisher or with the Philadelphia printer, such blundering as is shown in this series of tests is unpardonable. As regards No. 15, which the author evidently supposes he has added to the series, it is given, together with many others which he has omitted, in all the editions of JAEGER which we possess, namely, those of 1854, 1860, and 1865.

The mechanical execution of the book is unequal; the paper and letter press are fair for an American medical book, but many of the wood-cuts are very bad, both in execution and printing. Among the cuts we notice five very old friends, whose existence dates back at least twenty years. J. G.

THE MEDICAL USE OF ELECTRICITY, with special reference to General Electrization as a Tonic in Neuralgia, Rheumatism, Dyspepsia, etc., etc. With illustrative cases. By GEO. N. BEARD, M.D., and A. D. ROCKWELL, M.D. New York: William Wood & Co. 1867. 12mo., pp. 65.

[For sale by PETER SMITH, Bookseller, St. Louis.]

It is manifest that the medical profession is awaking from its indifference toward the therapeutical uses of electricity. Writings of able explorers in this field have become numerous, and although practitioners generally still show a deplorable deficiency of information in regard to the remedial effects, capabilities, and indications of galvanization and faradisation, yet the lately increased supply of instructive works permits some conclusion to be drawn as to the demand.

The little work before us (a republication of articles which originally appeared in the *Medical Record*) treats mainly of a new mode of using the interrupted current or "*faradaization*," as the authors correctly propose to spell the word, namely not locally, as in the manner of DUCHENNE, but over the general surface, so that the electric current may affect the whole system. The authors have found "general electrization" to have a much wider range of applicability in medical practice than the localized

use of the current. According to their experience, "the descending faradaic current, thoroughly applied, with the negative pole at the feet, is a tonic and corrective of far greater efficiency than any internal remedy now known to science" (p. 25). "Although paralysis in its different forms is usually more benefited by electricity than by any system of internal medication, it is yet among the least tractable of the various diseases that present themselves for this method of treatment. The diseases which are found to yield more readily and surely to general electrization are neuralgia, dyspepsia, rheumatism of the subacute and chronic varieties, chronic bronchitis, constipation, amenorrhœa, anæmia, hysteria, and general debility" (p. 26). "*Localized electrization*, according to the method of DUCHENNE and his followers, is serviceable in paralysis, acute neuralgia, and kindred affections; but where a general tonic effect is desired, as in dyspepsia, rheumatism, amenorrhœa (etc.), *general electrization* is indispensable" (p. 62). "It is a *tonic*, and it is to be applied on the same principles, subject to many of the same limitations as are all other tonics, except that it is more rapidly and surely effective than any internal medication" (p. 64).

That is saying a good deal in favor of a new remedy, and in bold, assured tone, savoring a very little of the dogmatic. But in the average the views of our authors are related soberly, and in commendably fluent and readable language, so that we gratefully acknowledge the pleasure we have had in their perusal. For proof of them the authors quote chiefly their own experience, as illustrated by quite a number of cases here recorded.

The essay is preceded by a short explanation of terms; but an index is wanting. It is printed on very good paper, and in beautiful, clear type; but the heavy and handsome binding impresses us unfavorably, being out of proportion and too pretentious for the modest little treatise. G. B.

CLINICAL LECTURES ON THE PRINCIPLES AND PRACTICE OF MEDICINE. By JOHN HUGHES BENNETT, M.D., F.R.S.E., Professor of the Institutes of Medicine, and senior Professor of Clinical Medicine in the University of Edinburgh, etc., etc. Fifth American, from the fourth London edition. With 537 illustrations on wood. New York: William Wood & Co. 1867. 8vo., pp. 1022.

[For sale by PETER SMITH, Bookseller, St. Louis.]

Again a new edition bears testimony to the popularity of Dr. BENNETT'S clinical work, which has been so eminently successful on this continent, and is so generally known that it would be superfluous to commend it to our readers. The first American reprint (of the third English edition) appeared in 1861, and a second edition in 1863; the third American reprint (of the fourth London ed.) appeared in 1866, and already we have a fifth.* These last editions have increased the volume to over a thousand pages, seventy more than the older issues. Comparing the work before us with the second American edition, we find that the last original edition (1865) is a pretty thoroughly revised one.

In the Introduction, the highly instructive remarks on the mode of conducting the clinical course are much extended in defense of practical examination of the patient by the student,—the plan of instruction which the author was accustomed to pursue. In the summary on the present state of practical medicine we find only one new paragraph (relating to our knowledge of animal and vegetable parasites). There would seem to have been room for more; six years have passed between the two last English editions,—and six years in modern medicine are a long time.

The only addition of consequence in the first (symptomatological) section is the chapter on *laryngoscopy*, occupying 5 pages, and illustrated by 14 new wood-cuts. In practicing percussion and auscultation in the hospital or for clinical purposes, Dr. BENNETT uses outlines of the trunk printed on slips of paper for conveniently recording the results; copies of these are shown on page 62. The general rules for auscultation are given more fully, and 9 wood-cuts added.

Undoubtedly the most interesting, if not the most important feature of this new edition is the author's "*molecular theory of organization.*" The learned doctor is here certainly going to the

* We regret that the fourth American edition is not at hand for comparison. We compare chiefly with the second American (or third London) edition.

very foundation of things. Though this theory of his has been published years ago, it is now for the first time embodied in his great clinical work, and is shortly stated as follows (p. 118):

"The ultimate parts of the organization are not cells, nor nuclei, but the minute molecules from which these are formed. They possess independent physical and vital properties, which enable them to unite and arrange themselves so as to produce higher forms. Among these are nuclei, cells, fibres, and membranes, all of which may be produced directly from molecules. The development and growth of organic tissues is owing to the successive formation of histogenetic and histolytic molecules. The breaking down of one substance is often the necessary step to the formation of another; so that the histolytic or disintegrative molecules of one period become the histogenetic or formative molecules of another."

In his exposition of this exceedingly simple and radical explanation, it strikes us the author committed one fundamental error by omitting his definition of a "molecule." Is it a thing without special form? or is it so small that we can not detect its form? Either one of these suppositions must be correct, for nowhere do we find the least allusion to its shape. In fig. 125, the "molecules" are represented as (histological) globules, and in fig. 130 they are pictured as (histological) granules. If we are not able to describe their form, of what use has been the "improvement in optical instruments" and our high magnifying powers, which the author says have enabled us to arrive at these grand conclusions? We see "molecules" with every magnifying power, high or low, with a powerful Nachet, and with a simple lens; we see "dust" with the naked eye. But what appeared as a mere speck with a low power, becomes a cell or other thing of some definite shape with a higher power; therein lies the advantage of the "improved optical instruments."—And yet he can not mean things without special form, the chemist's molecules, for he speaks (p. 116) of the visible molecules of the histologist.

We can not conceive of life without organization. The ultimate, the *very* last element to which we can refer vital phenomena must still be organized,—must have a definite chemical composition and physical form. "Vital force" surely does not reside in amorphous particles of albumen. We observe how oxygen is pumped into a living mass of albumen and fibrine and

fat and glue, and yet no putrefaction ensues; this is "in opposition to chemical and physical laws," and must be due to "vital force." Now if we invite Mr. Simple to witness how a photographer places a pane of glass in his box and draws forth a picture, he will be likely to surmise some iconogenetic force residing in the photographic camera, for an ordinary box will not act like this. Mr. Simple has as perfect a right to suppose a force, as physiologists have. But wherein consists this iconogenetic force of the photographer's apparatus that acts contrary to all the known laws governing ordinary boxes? In the *especial chemical composition and physical construction* of its parts. So of the ultimate living constituents of the body; they also are machines of such material and of such especial construction, that they *seem to us*, who are ignorant of this construction, to produce phenomena other than those following physical and chemical laws in dead masses.

If, however, Dr. BENNETT allows his molecules to possess these requisites, to be extremely *small bodies of a special material and a special construction*, then we are a step nearer towards agreeing with him. *Then* the next question will be, whether the cells, or the nuclei, or the still minuter *organisms* he terms molecules, are really the ultimate vital, active constituents of the body. This question is a purely histological one, which no amount of acute reasoning will solve; and we would accordingly rather await the solution of it by *histologists* more experienced than Dr. BENNETT. We are disposed to think that VIRCHOW himself would not care much whether his pathology be called cellular or nuclear. The change would be chiefly verbal. BEALE'S histology is also in a sense molecular, but even he makes every molecule a derivative of some living cell (germinal matter), and would probably object to that spontaneous-generation picture of Dr. BENNETT'S on page 119 (figs. 125–129). The latter is an especially weak feature; for the molecules upon which the author bases his arguments are in reality *germs* of either vibriones or fungi, and are not generated in the "clear animal infusion," for they do not begin as infinitely small specks as the theory would seem to demand, but are large enough to be intercepted by cotton, as PASTEUR has shown; besides, the same vibriones would appear in the "clear animal infusion" after it had been boiled—*i. e.*, *killed*, if left exposed to the air. This illustration of the new theory is clearly not in accordance with the assertion on page 123,

that the molecular theory does not "give any countenance to the doctrines of equivocal and spontaneous generation."

The chapters on nutrition and innervation appear to be entirely rewritten, and are much enlarged. After these follows "Inflammation." It is well known that Dr. BENNETT had altogether discarded the name "inflammation," substituting "exudation." In the present edition this has been *rectified;* the time-honored name again appears, and a few pages (160–164) are devoted to the subject. The change is in reality only a change of words, while the author still clings to exudation being the essential feature of inflammation; he attempts to prove (p. 164), that exudation of liquor sanguinis is the only morbid phenomenon which unequivocally characterizes inflammation, by asserting that nothing ought to be called inflammation but that process which leads to the said exudation.

In consequence of this resumption of the old name, and the coherent description of inflammation, the "vital transformations of the exudation," Ulceration and Gangrene, are placed under the caption "Terminations of Inflammation," together with a new paragraph on Resolution, with 3 illustrations (old figs. 378–380); while the consideration of the general treatment of inflammation has been extended.

Tubercular exudation—now "Tuberculosis"—is discussed at greater length, with the addition of one and change of another wood-cut, while "cancerous exudation" of the older editions is properly considered among the "Morbid Growths." The latter article is changed but little; a number of the old wood-cuts are omitted from the present edition. In speaking of the general treatment of morbid growths, the author introduces a letter from M. VELPEAU, giving testimony in favor of the curability of cancer by extirpation.

The third section has been entitled "General Therapeutics," and embraces some new chapters. That on the influence of the mind on the body has been placed first; that on the diminished employment of blood letting, etc., has been abbreviated. The remainder is much extended and mostly rewritten, embracing the following: The natural progress of disease; the knowledge derived from improved diagnosis and pathology; an inquiry into our present means of treatment—is entirely new, embracing 26 pages full of useful instruction on the action of remedies—; physiology and pathology the true foundation for medical practice.

The special part, also, contains additions and alterations enough to mark a decided advance. We will call attention to the more important ones.

A table of cases on page 458 exhibits the author's treatment of delirium tremens by dietetic means alone. "I hold, therefore," says Dr. BENNETT, "that delirium tremens is one of those diseases which only requires a dietetic treatment, and that the sooner nutrients can be taken, the more rapid is the recovery."

Newly introduced are: cases of poisoning by oxalic and sulphuric acids; a new chapter on diseases of veins and lymphatics; remarks on croup and diphtheria; a case of pertussis, with comments on whooping cough and laryngismus stridulus; an account of Dr. BOWDITCH'S operation of thoracocentesis; a new case and 3 illustrations of parasitic pityriasis, with explanatory remarks. The article Pneumonia is made to embrace the lengthy exposition of the author's treatment (formerly part of section iii.), and the pathology is extended, with the addition of a wood-cut. The disproportional length of the monograph on leucocythemia has been increased still more by 4 1-2 pages of close print to establish the priority claims of Dr. BENNETT. Diabetes mellitus has become a favored subject, increased by seven cases and a paragraph on treatment. The table of cases of continued fever treated in the Royal Infirmary, Edinburgh, has been completed to date; several paragraphs are added concerning thermometric observations, the etiology of typhoid and typhus fevers, and their treatment by wine and stimulants. Three new cases show the effects of the wet sheet on pulse and temperature in scarlatina, about which the author expresses an unfavorable opinion. Among the "Diseases of the Blood" is here first introduced the article Diphtheria, with two cases. The pathology of syphilis is treated of more fully; the subject of syphilization is left in doubt.

Besides all these changes which have caught our eye more particularly, there are minor alterations and numerous additional cases throughout the book. In the new illustrations we notice a very slight improvement over the old wood-cuts, which are mostly very bad and will not bear comparison with any that we are wont to meet with in recent medical works. A few typographical errors have been preserved, but very few; *e. g.*, Van Benedi*n*, tri*c*ocephalus, Thudi*c*um, Von Bær*i*nsprung. Tyro*z*in for tyrosin seems to be the author's own; but it is bad spelling nevertheless.

On the whole, the improvements of the new edition are manifest and numerous, and will not fail to enhance the reputation of the work. G. B.

A BIENNIAL RETROSPECT OF MEDICINE, SURGERY, AND THEIR ALLIED SCIENCES. Edited by Mr. H. POWER, Dr. ANSTIE, Mr. HOLMES, Mr. THOMAS WINDSOR, Dr. BARNES, and Dr. C. HILTON FAGGE, for the New Sydenham Society. Philadelphia: Lindsay & Blakiston. 1867. 8vo., pp. 522. Price, $3 50.

[For sale by KEITH & WOODS, Booksellers, St. Louis.]

The labor of love which the New Sydenham Society have undertaken in making foreign works accessible to those restricted to the English tongue, and in republishing the classical works of former generations of medical writers which are out of print or scattered in the old files of serial publications, is one that should command the gratitude of the profession. For a number of years they have added to these commendable enterprises that of a biennial retrospect (we hope it will soon be annual) of the medical sciences. That such a work was as necessary to the reader, as it is useful and instructive, is evident, for nothing like it exists in English literature. Indeed, there is but one periodical of exactly the same character in any language; *i. e.*, "*Cannstatt's Jahresbericht*," an annual report on the progress of the medical sciences, which has now passed into the hands of VIRCHOW and HIRSCH; it is compiled by a great number of collaborators, and of about four times the bulk of this biennial retrospect of the Sydenham Society. The latter is infinitely superior to the well known collections of BRAITHWAITE and RANKING, which are mere reprints of journal articles; for each subject in the individual reports is thoroughly and critically selected, sifted, and digested. These reports embrace the progress, during the years 1865 and 1866, of physiology (with histology and histological chemistry), practical medicine, surgery, ophthalmic medicine and surgery, midwifery and diseases of women and children, medical jurisprudence, materia medica and general therapeutics, and public health; all executed according to the same plan, although with unlike degrees of accuracy and completeness.

We ought to be grateful, likewise, to Messrs. LINDSAY & BLAKISTON for giving this neat volume a wider circulation than it could possibly obtain as part of the Society's publications, even

while we regret that the reprint seems to operate against the prosperity of the latter. We hope, however, that it will make the New Sydenham Society more generally known, and induce the American medical public to take a greater interest in its enterprise. Only, allowing the utility to the Society of the present volume, as an advertising sample, we do not desire to see future retrospects reprinted.

INHALATION: ITS THERAPEUTICS AND PRACTICE. A treatise on the inhalation of gases, vapors, nebulized fluids, and powders, including a description of the apparatus, etc., etc. By J. SOLIS COHEN, M.D. Illustrated. Philadelphia: Lindsay & Blakiston. 1867. 12mo., pp. 305. Price, $2 50.

[For sale by KEITH & WOODS, Booksellers, St. Louis.]

In preparing a report to the American Medical Association on inhalation therapeutics, Dr. COHEN collected so much material that a book has resulted, which we hope will be well received by the profession. Neither entirely original, nor exhaustive, like LEWIN'S voluminous treatise, but concise and practical, this little work is better adapted to the wants of the general practitioner, and therefore sure of finding a wider circle of readers.

After a general and historical introduction with the inevitable reference to the Ancients, the author commences with a chronological description of the apparatus invented for the purpose of administering atomized fluids by inhalation, from SALES-GIRONS' first attempt down to the present day. This part is well illustrated by wood-cuts. Then follows a discussion of the question as to the penetration of nebulized fluids into the air-passages, embracing the various experiments with negative and positive results, the reports on them to the French Academy of Medicine, and the further experimental and pathological proofs; from all of which the author concludes that nebulized fluids can be inhaled deeply into the respiratory tract, and that failure is due to unfavorable positions of the glottis, or improper method. The fact that the respiratory mucous membrane is an organ favorable to resorption, taken in connection with the proof that nebulized fluid can be inhaled, shows that the inhalation of medicated waters in this form can be utilized in therapeutics. The author next explains how much of the spray reaches the larynx, trachea, and bronchi,

describes the immediate effect of inhalation, and gives accurate directions of how to conduct inhalations, and of the number, strength and duration of inhalations. The materia medica of this curative method thus far embraces 53 articles, besides some mineral waters. The dose of each article is given, and the diseases are mentioned in which it has been successfully employed, with reference to the authors who recommend its use.

The concluding chapter of this first part (inhalation of fluids) treats of the diseases to the treatment of which inhalations of nebulized solutions are applicable. It is the longest chapter, and sets forth in a conveniently condensed form all the valuable information to be gathered from the extensive literature of the past ten years; among the more important affections here enumerated are acute and chronic inflammations of the fauces and pharynx, croup, diphtheria, œdema glottidis, aphonia, hæmoptysis, and phthisis pulmonalis.

The second part of the book treats of the inhalation of gases and vapors. Various instruments for inhalation are described, after which follow accounts of the various gases used. The remarks on the inhalation of compressed air are very meagre, and the author has evidently not been in possession of much of the literature on the subject; the observations of VIVENOT should, among others, have been noticed. Altogether, there is much inequality in this portion of the book; some subjects are very briefly discussed, and too much space, relatively, is given to others. Seventeen pages are devoted to oxygen, while nitrous oxide is neglected in one page; and we do not quite understand the author's remark, that the anæsthetic virtues of chloroform and ether "do not come under consideration in this volume;" this is certainly an arbitrary exclusion of a subject legitimately belonging under the head of inhalation. Chlorine, iodine, illuminating gas, ether, the balsams and tars, muriate of ammonia, and some other remedies, receive due attention. This part concludes with remarks on medicated atmospheres and respiratory diet.

Part III. is on the inhalation of powders, the history of which is traced back to Father AESCULAPIUS himself! It narrates, at some length, the experimental and pathological evidence of the penetration of powders into the respiratory tracts, but contains very little practical information.

A clear and readable style, pragmatic description, and faithful narration of the experience of others, render this volume particularly commendable as a guide to the practitioner. A few errors in names, as Beig*le*, Koni*n*gsb*u*rg, and the barbarian word *faucitis*, will, no doubt, be corrected in a future edition, which can not fail to become necessary. The publishers have given the book a neat exterior, as it deserves. G. B.

HEADACHES: Their Causes and their Cure. By HENRY G. WRIGHT, M.D., M.R.C.S.L., etc. From the fourth London edition. Philadelphia: Lindsay & Blakiston. 1867. 12mo., pp. 154. Price, $1 25.

[For sale by KEITH & WOODS, Booksellers, St. Louis.]

We have read with interest this monograph which is intended to be simple and practical, and appears to be in great measure the result of actual observation and experience. The subject is carefully divided into heads, and formally treated. The numbering of the paragraphs, and the occasionally stilted style, give a somewhat labored air to the performance, while a few descriptive and rhetorical passages suggest the idea that the author has in view readers outside of the profession.

Cases of irregularly recurring, or more or less persistent headache may frequently be observed, for which medical aid has never been sought, because it is *only* headache, or having been sought unavailingly, the sufferer has given up all hope of cure.

"The occurrence of pain," says Dr. WRIGHT, "is one of the safeguards of life. We can not wilfully or ignorantly commit physiological errors, take the resulting pain as a penalty, and then stand where we did before with accounts squared, for in the long run Nature takes her revenge, and permanent mischief is done. It behooves us, then, if we would live wisely, not to neglect the warnings of pain, but in every instance to seek out the cause and avoid it."

Our author treats of the headaches of childhood and old age separately, considering them significant of more important troubles than those of adult life. In regard to childhood he runs briefly over the often trodden ground of head symptoms from meningitis, disordered digestion, while the growth should be rapid, as premonitions of various infantile diseases, from ill-ventilated bed

rooms and over-study, with the obvious prudential precautions; among other things, speaking well of the shower bath in cases where its use is followed by reaction.

But it is when he comes to the headaches of adult life that he treats especially those forms which he considers the scourges of civilization. Here he makes five divisions, as the headache arises from disorders of the circulatory, digestive, or nervous systems, from the gouty and rheumatic diathesis, and lastly from organic diseases.

Of plethoric headache he says, with epigrammatic point: "Those who suffer from them are often very regular in their diet, this regularity consisting in their habitually living too well." Noting the relations of this variety to diarrhœa, piles, epistaxis, etc., he comes to headache from congestion, in which the skin and bowels are torpid, and the excess of blood is chiefly in the head.

The second division is especially important to Americans, who probably have the richest diet and the worst cooked of all civilized nations, to say nothing of bad habits of eating. When we think how few of our countrymen possess a sound digestion, the assertion of the right to "the pursuit of happiness" seems indeed a "glittering generality."

The subdivisions here are headache from indigestion, sick headache, and bilious headache. They open or suggest all the questions of diet, cooking and digestion, and the consideration of the various sources and manifestations of dyspepsia. In the treatment of such cases, the greatest and most common source of difficulty is the lack of self restraint in the patient, who persists in eating food of improper quality or in too great quantity, and the doctor must deal with the problem of enabling him to do so with impunity. Emetics, cathartics, narcotics, stimulants are given at the crisis as they are required or submitted to; and for general and preventive treatment, attempts are made by all the resources of wines, dinner pills, pepsine, etc., to enable the stomach to accomplish the work imposed upon it; to relieve by laxatives, or to divert the patient from the pleasures of the table by the counter attractions of foreign travel, preceded perhaps by a wholesome attack of sea sickness in crossing the ocean.

When the diet is in itself proper, but the digestion is not vigorous, anxiety, too great mental labor, hurried eating, want of

exercise, ill-timed exercise or even a change in the weather may be the immediate cause of headaches of this class, and must be discriminated to be avoided or counteracted.

With regard to sick headache, which he carefully describes, the author holds the opinion, that "the irritation is probably produced after the food has passed the stomach, and during its presence in the intestines."

Nervous headache, that from gout, rheumatism, organic disease, and especially from softening of the brain in old age, are duly discussed.

The treatment is given clearly and at length, and at the end of the book are to be found fifty prescriptions, each followed by a line or two describing its use, and referring to paragraphs in the book. Thus after the first prescription we read: "To relieve the headache that ensues after inebriety, etc. (paragraph 102)." This feature has the manifest disadvantage of tempting some professional and non-professional readers to copy them blindly, instead of refraining from medicine altogether, or suiting the dose to the requirements of each case. We observe, that, while in the United States the tendency is to simplify prescriptions and lessen the number of ingredients, many of these formulæ contain five or six.

We are surprised to read, p. 111, of "that remarkable prominence which the eye assumes after division of one or more of its muscles in the operation for squinting," the fact being that in a properly performed operation for strabismus the eye does not protrude.

We consider the book a valuable one, full of suggestion and stimulating observation, and feel sure that those who read it will treat headache with greater interest, and will undertake with clearer ideas the task of unraveling its complicated causes.

C. E. B.

HUFELAND'S ART OF PROLONGING LIFE Edited by ERASMUS WILSON, F.R.S., etc. From the last London edition. Philadelphia: Lindsay & Blakiston. 1867. 12mo., pp. 298. Price, $1 25.

[For sale by KEITH & WOODS, Booksellers, St. Louis.]

We are truly glad to see this old friend of our younger years introduced in such a fine dress in this country; for though many

years have passed since its first appearance in Germany (1796) and translation into nearly all European languages, its introduction in this country now is, nevertheless, a welcome guest. Not that it will put an end to all the publications of learned and unlearned doctors that are thrust upon readers under the titles of "Guide to Health," "The Domestic Physician," etc., etc.; yet it must exercise an influence for good against all these unhealthy tracts "for the use and instruction of the public." In a time and at a place where GOETHE, SCHILLER, HERDER, KIESER, OKEN, HIMLY, etc., lived and labored, near the court and the university of Saxe-Weimar, and where the great philosopher SCHELLING first displayed his master mind, the then youthful HUFELAND wrote his treatise on the "art of prolonging life." One can not read a page of this book without feeling the influence of the author's association with those really great men of the classical period of German literature; and the elegant and brilliant style in which the general truths of a nature-like physical and moral education of mankind are here delineated, will never lose its lustre. We advise every physician to make himself thoroughly acquainted with this classical book, and to admit it into the hand of families to counteract the modern trash published for the benefit (?) of an uninstructed public. The translation is good; we only regret that one or two chapters of the original are omitted from the English translation, of which the book before us is a reprint, and are replaced by others, both shorter and weaker. F. E. B.

Extracts from Current Medical Literature.

ANATOMY AND PHYSIOLOGY.

1. *Brunetti's Method of Preparing and Preserving Anatomical Specimens.*

The Paris correspondent of the Vienna "*Med. Presse*" (Sept. 1, 1867,) speaks in the highest terms of praise of Prof. BRUNETTI's important invention of a mode of preparing anatomical specimens of great durability, which will exert a large influence upon the respective branches of medical study and education. The principal characteristic of BRUNETTI's preparations, says the correspondent, is certainly their astounding lightness; their color is usually light-gray or white; [the first trials of the method produced darker, more brownish specimens]. All the membranous formations and walls have acquired such a degree of dryness and rigidity, that all preparations are preserved in their primitive form and in their individual topographical relations—one of those circumstances which prove and secure their scientific value. All blood-vessels, very distinctly visible in sections, are wide open; all, even the smallest and finest distributions of vessels, as well as the pulmonary vesicles, are clearly and prettily defined. The uriniferous tubes of the kidney and the glandular orifices in all parts of the intestinal canal, etc., etc., can be observed with facility, and thus an accurate image can be obtained, with a magnifying power of only 40–60, of the minute composition and intimate structure of organs. If a higher power is to be used, however, the objects should be rendered transparent by imbibition of water or glycerine, and as strongly illuminated by transmitted light as possible. . . . .

What more especially facilitates the microscopical examination of the oldest, very dry, preparations is the fact, that they are most excellently adapted to the cutting of very fine sections, and pretty large sections can thus be made without too great difficulty.

No other sort of recent or preserved anatomical specimens affords this advantage in so great a degree; so that it is probable that by the aid of BRUNETTI's preparations the study of the architectonic composition and arrangement of the individual anatomical elements of each organ can be essentially advanced and brought to greater perfection.

Even in the study of topographical anatomy these preparations may be of much use, as all parts are mummified *living*, as it were, and most of the characteristics pertaining to them during life are preserved. Sections can be made in any direction, at all points, and the cut surfaces remain unaltered for an indefinite time. Moreover, all preparations from whatever region or organ are completely devoid of odor. . . . Excepting a few very fine and delicate specimens, they need not be handled with very great care, and most of them are sufficiently protected from breakage or other injurious influences, as pressure, blows, falls, etc., by their elasticity.

A Paris letter of the *N. Y. Times* (*N. Y. Medical Journal*, Oct., 1867) says, in reference to this invention: Here are specimens of healthy and diseased liver, of healthy and diseased lung, of healthy and diseased kidney,—in fact, of healthy and diseased tissue from all parts of the body. In the lung we see specimens of interstitial granulations, of tubercles, and of cavities after abscesses. All this is so plain that a child might learn how the lung looks in the various diseased states to which it is subject. So, too, there are slices of liver and kidney showing fatty degeneration and cirrhosis of the first, and Bright's disease of the latter.

The process of Dr. BRUNETTI comprises several operations: viz., 1, the washing of the piece to be preserved; 2, the *degraissage*, or eating away of the fatty matter; 3, the tanning, and 4, the desiccation.

1. To wash the piece M. BRUNETTI passes a current of pure water through the blood vessels and the various excretory canals, and then he washes the water out by a current of alcohol.

2. For destroying the fat he follows the alcohol with ether, which he pushes, of course, through the same blood vessels and excretory ducts: this part of the operation lasts some hours. The ether penetrates the interstices of the flesh, and dissolves all the fat. The piece, at this point of the process, may be preserved any length of time desired, plunged in ether, before proceeding to the final operations.

3. For the tanning process M. BRUNETTI dissolves tannin in boiling distilled water, and then, after washing the ether out of the vessels with distilled water, he throws this solution in.

4. For the drying process Dr. BRUNETTI places the pieces in a vase with a double bottom filled with boiling water, and he fills the places of the preceding liquids with warm, dry air. By the aid of a reservoir, in which air is compressed to about two atmospheres, and which communicates by a stop-cock and a system of tubes, first to a vase containing chloride of calcium, then with another heated, then with the vessels and excretory ducts of the anatomical piece in course of preparation, he establishes a gaseous current which expels in a very little time all the fluids. The operation is now finished.

The piece remains supple, light, preserves its size, its normal relations, its solid histological elements, for there are no longer any fluids in it. It may be handled without fear, and will last indefinitely.

A similar, more easily executed, but probably much less advantageous process has been invented by M. VON VETTER, and is published in the *Chemical News* (in *Dental Cosmos*, Nov. 27):

Add to 7 parts of glycerine at 22 deg. 1 part of raw brown sugar and half a part of nitre, till a slight deposit is formed at the bottom of the vessel. The portion required to be preserved is then plunged, dried or not dried, and left in the mixture for a time proportional to its dimensions; a hand, for example, should remain eight days in the liquid; when it is taken out it is as stiff as a piece of wood, but if it be suspended in a dry and warm place the muscles and articulation recover their suppleness.

2. *Structure of the Placenta.* By Dr. P. JASSINSKY, Assistant in the Obstetrical Clinic in Charkow, Russia.

[*Virchow's Archiv. XL.*, 341. 1867.]

Having employed new methods of investigation and preparation in the study of the human placenta at the full term, and that of the dog in the first half of pregnancy, the author arrives at the following results:

In woman, as well as in other animals, the villi of the chorion grow into the uterine glands. In the placenta we find, immediately after birth, two kinds of villi: (*a*) ordinary free villi of the chorion; and (*b*) composite villi, *i. e.*, such as are situated in uterine glands. The free villi consist of a single layer of flat epithelial cells and a simple structureless basement membrane. The composite villi possess two structureless membranes and two layers of epithelium, of which the outer consists of cylindrical epithelial cells, the inner of flat epithelium. The number of composite villi is much less than that of the simple. Not all uterine glands are occupied by villi of the chorion; many of them remain free. In the placenta at full term all glands, the empty

ones as well as those which have coalesced with villi, show a pretty strong fatty degeneration. Considered from a histological point of view, the tissue of the maternal part of the placenta is of the character of the epithelioid tissues.

3. *The Vasomotor Nerves of the Pia Mater and Brain.* By Dr. H. NOTHNAGEL, Assist. Physician to the Medical Policlinic at Königsberg, Prussia.

[*Virchow's Archiv. XL.*, 203. 1867.]

New experimental investigations (on rabbits) have led the author to these results:

(1.) The vasomotor nerve-fibres for the vessels of the pia mater partly belong to the ganglionic chain of the cervical part of the sympathetic.

(2.) Another, perhaps more considerable, part of them enter the superior cervical ganglion.

(3.) Some take a course above this ganglion even, very probably in cerebral nerves.

The same results can safely be predicated of the vessels of the cerebral substance itself, though direct observation is here impossible.

These vivisectional experiments have further shown, that violent irritations (electrical or mechanical) of sensory nerves cause contraction in the arteries of the pia mater. A rabbit having been trephined and the dura mater removed, if the metallic electrodes of a strong inductive apparatus be placed upon the thigh at points corresponding to the course of the crural nerve, a distinct contraction of the arteries of the pia mater will be observed, which will continue for a few minutes after the removal of the electrodes, and gradually pass into dilatation. Undoubtedly this contraction of the arteries is of reflex nature. The excitation is transferred, in the medulla oblongata, to the vasomotor nerves of the head. Partial interruption of the courses of the latter, as far as that is possible, diminishes the effect of the irritation to a minimum. Severe mechanical irritation of the leg had the same effect.

This reflex contraction of the cerebral vessels is of importance in the analysis of the mechanism of the epileptic attack. Lately the opinion has gained ground, that a spasm of the cerebral arteries

is the first link in the chain of phenomena constituting an epileptic or eclamptic paroxysm; this spasm causes anæmia of the brain, upon which depend the convulsions and coma (KUSSMAUL and TENNER, BROWN-SEQUARD, REYNOLDS). Now it is certain, that there are cases of epilepsy that can safely be designated as "reflex epilepsy,"—cases in which the disease arose from an injury or the like. The reflex origin of the convulsions is still more extended as concerns "acute epilepsy": eclampsia; (eclamptic attacks of children in teething, from presence of worms, etc.) The author's experiments may perhaps throw some light upon this form of the disease. For if the above idea of the causation of epileptic attacks be correct, we must assume that in reflex epilepsy a contraction of the cerebral vessels takes place upon a peripheric sensory irritation. The experiments have actually demonstrated the occurrence of this reflex contraction of the arteries of the brain.

4. *Concerning the Sugar of Muscle.*

[*Amer. Journ. Med. Sc.*, Oct., 1867, from *Journ. Anat. and Phys.*]

Dr. R. MCDONNELL, in a very interesting paper (*Journ. Anat. and Phys.*, May, 1867) presents a short history of this subject.

In Aug., 1861, G. MEISNER announced his discovery of a true sugar in muscle, one of the most beautiful of the recent discoveries of physiological chemistry. It affords a basis for the most comprehensive theories as to the mode of decomposition of albuminous matter; and such inferences MEISNER did not fail to draw. He sought by two methods, which appear conclusive, to establish with certainty the view that the sugar in muscle is in truth derived from this organ itself (and not from the blood); and secondly, that it is a product of the decomposition of albumen.

He found sugar to exist in the muscular tissue of an animal which had for a long time been fed exclusively on flesh, and, what was still more conclusive, he detected it in muscle from which all blood had been removed by the injection of water. The sugar therefore appears to be derived from the muscular structure itself, and it is certainly highly probable that it owes its origin to the albumen.

When Dr. JOHANNES RANKE undertook to investigate the chemical changes which occur in muscular tissue, in consequence of muscular action, it was natural that so well characterized a substance as MEISNER'S muscle-sugar should attract his attention. He therefore determined not only to repeat the experiments of MEISNER, but to investigate whether the quantity of sugar in muscle undergoes any change in consequence of muscular action; in other words, whether after tetanization of muscle the sugar contained in it was found to be increased or diminished in quantity.

RANKE, by his experiments, which we have not space to detail, has furnished a direct proof that this sugar found to exist in muscular tissue, and increased by muscular action, actually arises where it is found, and is not conveyed from the liver or elsewhere; in fact, that the sugaris formed from the muscular substance itself. MEISNER'S supposition is therefore fully confirmed; and RANKE has the merit of having established on a secure basis the following propositions:

1st. That there exists a true fermentable sugar in muscle.

2d. That the amount of this sugar is increased by muscular action. (Tetanization caused by strychnine or electricity.)

3d. That the liver has no effect in causing this increase; for the sugar is proved to arise in the muscle itself, and from the muscular substance.

5. *The Influence exerted by the Movements of Respiration on the Circulation of the Blood.* By Dr. J. BURDON SANDERSON.

[*Proc. Royal Society*, vol. xv., No. 91.]

In the Croonian Lecture for 1867, Dr. SANDERSON endeavored to show—

That the explanation usually given by physiologists of the mode in which the respiratory movements of the thorax influence the force and frequency of the contractions of the heart can no longer be entertained.

The doctrine usually taught in this and other countries is stated as follows in one of the most recent text-books: "During the act of expiration the frequency of the pulse is considerably augmented, whilst the line of mean pressure rapidly rises, indicating increased tension in the arterial walls. . . . . During the act of inspiration, on the contrary, the pulsation becomes slower, the curves much bolder, and the line of mean pressure gradually falls; for then the blood readily enters the thorax, and, as a consequence, the great veins, capillaries, and arterial walls become comparatively flaccid" (CARPENTER'S Physiology, 1864, p. 345). Statements to the same effect are to be found in BUDGE'S Lehrbuch der Physiologie, in KIRKE'S Handbook, and in LUDWIG'S Lehrbuch.

From numerous experiments in which the respiratory movements and the variation of pressure in the arteries in the dog were recorded simultaneously by mechanical means, the author arrived at an opposite conclusion, viz., that in natural breathing each expansion of the chest is followed by increase of arterial tension and shortening of the diastolic interval; in other words, that the immediate effect of inspiration is to increase both the force and frequency of the contractions of the heart. . . . .

Theoretical exposition of the mechanical influence of the respiratory movements on the circulation. (1.) It has been demonstrated by DONDERS that the elastic contents of the chest have at all times a tendency to shrink to a smaller bulk than that of the cavity in which they are contained, so that the viscera within the thorax are constantly distended in a degree which varies according to its ever-varying capacity. As, however, they

are not equally elastic, they yield to this distention unequally. When the chest enlarges, the lungs yield most; the veins and heart, in a state of relaxation, next; the contracting heart and the arteries scarcely expand at all. (2.) If the veins contained air and communicated with the atmosphere, they would fill as rapidly as the lungs; actually their expansion is much slower. Hence the first effect of inspiration is to increase the proportion of thoracic space occupied by the lungs, by which they become relatively more distended than the other organs. So soon, however, as the veins and auricles have time to fill, equilibrium is more or less restored. (3.) Hence it follows (*a*) that the dilatation of the chest in inspiration aids the expansion of the heart during diastole, and of the thoracic veins; and (*b*) that these events can not occur simultaneously with their cause, but must follow at an interval varying according to the condition of the circulation. (4.) Other things being equal, the force and frequency of the contractions of the heart are increased by whatever causes it to accelerate its diastolic impletion. The more rapidly the cavities fill the shorter must be its period of relaxation, the more vigorous its systole, and consequently the greater the arterial pressure. (5.) The effect of thoracic expansion on the intra-thoracic veins varies both as regards its degree and the time of its occurrence. Both kinds of variation depend on the velocity of the circulation and the pressure existing in the veins outside of the chest. When the systemic veins are distended, the circulation rapid, and the arterial resistance in consequence diminished, the heart almost empties itself at each contraction, and the expansion of the chest fills the thoracic veins and the relaxed heart with great rapidity. In the opposite case, when the systemic veins are comparatively empty, the cavities of the heart fill slowly, and discharge themselves imperfectly on account of the excessive arterial resistance. (6.) Hence *the effect of inspiration* in facilitating the diastolic impletion of the auricle, and consequently *in increasing the frequency and force of the heart's action, varies directly as the velocity of the circulation, inversely as the arterial pressure.*

Conclusions.—1. In natural breathing the influence exercised by the thoracic movements on the heart is entirely mechanical. So long as the respiration is tranquil, variations of air-pressure in the bronchial tubes and vesicles of the lungs do not materially affect the arterial pressure; but violent respiratory movements are accompanied by simultaneous increase of vascular tension.

2. When the respiratory orifices are closed, the variations of blood pressure in the arteries are synchronical with those of air pressure in the respiratory cavity, and take place in the same direction.

3. The increased action on the heart which results from chemical changes produced in the circulating fluid by exposure to air, is of the same nature as the mechanical effect of inspiration, both being indicated by increased arterial tension and acceleration of the pulse. The former may be distinguished from the latter (*a*) by the length of time required for the production of the effect, and (*b*) by its dependence on a previous venous condition of the blood.

4. Hence the influence of the thoracic movements on those of the heart may be either directly mechanical, as in suffocation, indirectly mechanical, as in ordinary breathing, or chemical.

PRACTICAL MEDICINE.

1. *The Treatment of Chorea by the Sulphate of Zinc.* By E. S. DUNSTER, M.D., Physician to the Out-Door Department of Bellevue Hospital.

[*Med. Gazette*, Nov. 16, 1867.]

The publication, by Dr. HAMMOND, in the *Gazette* of Nov. 2, of two cases of chorea successfully treated by the sulphate of manganese, induces me to present the following cases, in which a cure was effected by another mineral tonic, viz., the sulphate of zinc. In all of these cases, no medication whatsoever, beyond the zinc, was employed; there was, therefore, no perturbating element to be allowed for in estimating the efficacy of the remedy. The hygienic treatment of the patients, however, was most rigidly enforced, and it is to this element in the treatment that I desire to call especial attention, for my belief is that almost any analeptic medication will suffice to cure this troublesome affection, provided the strength and vigor of the system be maintained by proper hygienic and nutrient means. Indeed, very many cases, left to themselves, will recover without medication, if the patient be put through a course of nourishing food, well-regulated exercise, careful cleanliness, abundance of fresh air, frequent change of surroundings, proper moral influences, etc.; or in other words, if due attention be paid to the rational and hygienic treatment. The very success of so many different remedies which have been so largely extolled by various authors, substantiates this view; for in general it may be assumed that where, in the treatment of any given disease, a large number of remedies is found to be successful, there is an intrinsic tendency in that disease to recovery. I do not therefore claim for the zinc any special advantage over the other remedies which have been used as specifics in this disease, and would especially caution against too great a reliance upon such. The rational treatment of each case should be a study in itself, and should never be overlooked.

One or two points in the three cases are worthy of notice.

1st. No amendment was observed until the dose of the sulphate had reached some eight or ten grains; but it must be borne in mind that a certain length of time is necessary for the effects of the rational treatment to be noticeable; the question therefore naturally arises to which element in the treatment was the success due. My own opinion (as may be inferred from the above remarks) is, that the two mutually aid and accelerate each other, and that either part of the treatment, by itself, would not prove as speedily or thoroughly successful as when the two are combined.

2d. The connection of chorea with rheumatism, as first pointed out by Dr. COPLAND, and subsequently confirmed by the observations of BRIGHT, BEGBIE, M. SEE, and others, is seen in two of these cases. [Compare the following article by Dr. ROGER.—ED. *St. Louis Med. and Surg. Journal.*]

3d. In two of the four cases the choreic movements were unilateral, one of the right, and the other of the left side. A large series of cases would not probably show so great a proportion of unilateral cases. The weight of testimony to be gathered from the books being, that while in the earlier stages the movements are more marked on one side than the other, subsequently the whole body is apt to become affected.

Lastly, there is to be observed the readiness with which the stomach accustoms itself to large and emetic doses of the zinc.

DANIEL SHEEHAN, æt. 11 years, came under my observation December 28, 1866. There was no positive history of any previous acute disease, but the boy had suffered during the winter and spring preceding from some of the symptoms of rheumatism. The irregular muscular movements came on very gradually, and were exclusively confined to the right side. They had existed in such degree as to attract the attention of the parents only for four months past. The movements were not unusually violent; and the case did not appear to be a formidable one as the lad was as well developed as could be expected in the condition of life to which he was subject. The bowels were not constipated but somewhat irregular; appetite fair but variable; heart beating heavily and somewhat tumultuously; apex displaced to the left, and the breadth of the organ increased one-half or three-quarters of an inch; sounds normal, except that the first was very much subdued; the movements cease during sleep.

The most explicit instructions were given as to the care of the patient, the regulation of his diet, exercise and habits, in a word, his whole plan of life, and I have reason to believe they were carried out as completely as could be under the circumstances. The sulphate of zinc was administered internally, commencing with one grain three times daily. This was increased gradually until the dose had reached ten grains, when decided amendment took place. The dose was once more increased to twelve grains, three times daily, at which point it was continued for a week, and the medication was then gradually but rapidly diminished. February 15th, although the patient was still under treatment, there was no indication of the disease, and on the 25th he was discharged. The heart's condition remained unchanged.

ALBERT SMITH, New York, æt. 5 years, was first seen by me February 1. He had then well-marked general chorea. No antecedent disease. The patient is a bright-eyed, intelligent, well-nourished lad. The functions of the bowels, skin, and kidneys, are well performed. No indication of any cardiac disease, either functional or organic. The parents were inclined to think that much of his disability was due to habit. And my observations subsequently led me to the same opinion, as the lad could easily control the movements by an effort of the will. The movements were wholly confined to the muscles of the arms and face, the eyes espe-

cially taking on a singularly mischievous appearance from the peculiar twinkling motion of the lids.

General treatment as in case 1. The zinc was also administered internally, viz.: February 4th, 2 grains; 6th, 3 grains; 8th, 4 grains; 10th, 6 grains; 15th, 8 grains, per dose. At this time there was marked improvement, and in the course of the following week, no movements were perceptible which the child could not readily control. The medication was then stopped abruptly, but the disease returned, and during March the whole plan of treatment had to be again gone over. The amount of zinc was now pushed to 12 grains three times daily (March 20th to 25th), and withdrawn gradually. April 4th, the amount was 4 grains in each dose. April 10th, medication discontinued and patient discharged cured.

ELIZA KINNEY, N. Y., æt. 9 years, was brought to me, Feb. 5, 1867, suffering from general chorea of a very aggravated character. The case was acute, being of only two weeks' duration, and had followed an attack of inflammatory rheumatism. The movements were violent and very irregular; indeed, so excessive were they that the little patient could neither walk nor talk. The arms were thrown about in the wildest confusion; nothing could be held in the hand; the legs were flexed, extended or crossed in the most absurdly erratic manner; the tongue would be protruded and suddenly withdrawn; the jaws would open and close with a vicious snap, and even the large muscles of the trunk participated in the movements. Distinct articulation was impossible, and only liquid food could be swallowed, and the patient, from loss of sleep and want of proper food, was rapidly losing strength. Altogether the case was the most violent one I have ever witnessed. Auscultation of the heart was unsatisfactory, as the excessive contortive movements interfered with the proper examination in this way.

The same general plan of treatment was adopted as in the previous cases, and the directions as to the care of the patient were necessarily explicit on account of the gravity of the case, and yet from its rapid development it was fair to infer that so soon as an impression was made on the disease it would yield quite rapidly. And such proved to be the fact. The sulphate was carried only to 6 grains per dose in about 14 days, when there was a manifest amelioration of the symptoms. The amount was increased then to 8 grains per dose, at which point it was continued until the 25th of March, and then rapidly withdrawn, as the patient was entirely free from every evidence of the disease. I saw this patient again in October; there had been no return of the difficulty, and the patient was hardly recognizable, so great had been the change in her general appearance and condition. She had regained her flesh and strength and color; articulation was perfect, and all her functions were naturally performed.

EMMA WITMEIER, N. Y., æt. 9 years, was brought to the hospital Dec. 2. She had chorea confined to the left side, and not extreme in its character. One year previously she had typhus fever, and during convalescence from this there was a slight attack of chorea, which yielded readily to treatment, the nature of which was unknown to the mother. Three months previously the mother reports that she had pneumonia, though

from an examination of the symptoms from which she suffered at that time I am disposed to question the correctness of this statement. Immediately following this illness the chorea manifested itself. The appetite was variable; digestion fairly well performed: bowels very irregular, but not much constipated.

The treatment was commenced as in the other cases, but after a few days the patient discontinued her visits. The result, therefore, can not be given. The case is reported here merely to show its unilateral character, and its connection with previous acute disease.

2. *The Relation of Chorea to Rheumatism in Children.* By Dr. HENRI ROGER.

[*Med.-Chir. Rundschau*, Aug. 1867, from *Ztsch. f. Pract. Heilk.*]

From his numerous clinical investigations on the rheumatism of children and its manifestations, the author draws the following conclusions:

1. *In reference to the rheumatism of children, as such:*

Rheumatism occurs in youth much more frequently than is usually supposed. The new-born and infants at the breast are exempt from it, and from the third to the fifth year of age the disease occurs but exceptionally, but in "second childhood" it manifests itself almost as frequently as in adults. "Taking cold" is, as generally, in this age also the usual cause of acute articular rheumatism. Even the rheumatism in connection with scarlatina is almost always the result of cold; it has a peculiar character, is usually more limited, mostly confined to the neck and hands; moreover it is less severe, of shorter duration, and subject to less complication on the part of internal organs, although a rheumatico-scarlatinous endocarditis does occur. Acute wry-neck is as peculiar to children as lumbago to adults. Sometimes we meet with cerebral rheumatism in children, which occasionally can be mistaken for spinal meningitis. The extremely acute forms of articular rheumatism, as they are not rarely found in adults, are less frequently observed in children; in these the subacute form is the usual one. Complications, however, are just as frequent in children as in grown persons, and much more important and serious on account of the less resistance which the infantile organism offers. A very light rheumatism moderately affecting but one or two joints, nay even simple pains, may in children be complicated by endo-pericarditis, which is sometimes fatal and always very serious. A simple and even light rheumatism, moreover, may in children be the starting-point of many other serious affections; thus, *e. g.*, moderate pains in the ankle-joint may lead to congestion of the lungs, endocarditis, aortitis, and chorea, with mental alienation. As in adults, so also in children are the complications on the part of the heart the more frequent, to such extent that cardiac affections and acute rheumatism must be looked upon as in a measure connected and necessarily dependent upon one another; and that if a rheumatic child escapes the heart disease the first time, it will surely be subject to it in the

second, third, or fourth attack. In many cases the series of accidents by which rheumatism manifests itself begins with that of an inflammatory affection of the heart. If the rheumatism is complicated by pericarditis or endocarditis, very often a pleurisy of the left side, or of both sides, is added to them. The rheumatic affection of the brain occurs more rarely in children, and is not so dangerous as in adults. According to observations thus far, this cerebral affection has shown itself only in cases accompanied by chorea, and the question is, if the latter is only an expression or effect of cerebral rheumatism.

In the diagnosis of articular rheumatism in children, we must attend chiefly to the distinction from the so-called "growing pains," from acute rachitis, and from abscesses in the vicinity of the epiphyses.

The prognosis of acute articular rheumatism in children varies according to the degree of violence, the amount of fever, the greater or less extent of the disease, but especially according to the complications; and it should be remembered, that the seemingly slightest attack may be complicated with the most serious accidents, and even end fatally.

Finally, in respect of treatment, there is no specific remedy, and we must act rationally according to the respective indications.

2. *On rheumatism with chorea.*

It has already been said that chorea as a complication of rheumatism is peculiar to childhood, and that a combination of the two diseases, or the following of the one upon the other, occur very frequently and can be regarded as the common expression of one and the same pathological condition. That the two belong together results from the observation of those cases, in which one has had the genesis of both diseases before one's eyes. In those cases, also, where chorea occurred during convalescence or soon after recovery from acute rheumatism, this pathological connection has been established, as well as by observation of those cases in which, during the existence of the rheumatism or from its very beginning, chorea was associated with it. Finally it has been established by the study of those cases in which rheumatism and chorea constantly alternated. Most frequently chorea is wont to supervene upon acute rheumatism, when the latter is on the decrease, that is, when its acute stage is about over. Very frequently, also, chorea occurs in those cases where the rheumatism is not firmly localized, where it is not very severe but more wandering, and therefore easily mistaken for "growing pains."

There seems, therefore, to exist in children a sort of compensation between rheumatism and chorea. The milder the rheumatism, the earlier and the more severe will be the chorea; the more violent, acute, extensive the articular rheumatism is, and the more it is accompanied from the beginning or during its course with cardiac disease, the less will usually be the chorea; and in cases where a series of attacks of both diseases alternate, the one often makes up in severity for the measure the other has failed to fill. This intimate connection of chorea with rheumatism in children surely has a determining influence upon the prognosis. If a child is attacked with acute rheumatism, however lightly, chorea is near at hand and lying in ambush, as it were, and on the other hand, a child suffering

from chorea may expect rheumatic troubles. Especially ought, in a prognostic point of view, the easy and frequent development of inflammatory affections of the heart and respiratory organs in the two diseases to be carefully observed. The history of rheumatism in children embraces that of chorea as well, as the latter can not be described without simultaneous discussion of the former,—or rather it is but a single disease which manifests itself in this double form.

3. *Method for Local Treatment of Laryngeal Disease.*

[*Sitzungsber. d. niederrhein. Gesellschaft in Bonn.* 1866. *p.* 72.]

Dr. OBERNIER, referring to the fact that the local treatment of laryngeal affections is frequently performed unsatisfactorily, recommends the method adopted in the medical clinics of BONN (which however he does not claim to be new). The patient sitting with his face turned toward the window, and his mouth opened, the larynx is illuminated by a laryngeal mirror. The hair-pencil filled with the medicated lotion is then so introduced that its point is held exactly above the entrance to the larynx. A rapid motion of the pencil forward and downward necessarily brings it under the larnyx, which is also made certain by the violent cough (and sometimes spasm of the glottis) it causes. While the latter manifestation is being performed, it is well to let the patient sound a high note. The advantage of this simple and easy method over the blind cauterization of the larynx, both in respect to the rapidity and the completeness of the cure, was established in many cases by comparison. The solution of nitrate of silver usually employed is, according to O.'s opinion, far too weak. He seldom uses a silver lotion of less than hali a drachm to one ounce.

4. *Death from the Sequelæ of Diphtheria.* By Dr. MINOT, in Boston Society for Medical Improvement.

[*Boston Med. and Surg. Journ.*, Nov. 21, 1867.]

The patient, a lady of nervous temperament, 65 years old, had an attack of diphtheria, in July last, while staying at the seashore, for which she was treated by Dr. EDWARD NEWHALL, of Lynn. Tonics and stimulants, combined with energetic local applications, were the means employed, and the patient recovered. Some weeks afterwards, inflammation, followed by ulceration, attacked the cornea of the right eye, which had twice before been subject to the same affection, at intervals of several years, so that its sight was much impaired. At the same time the patient began to lose control over her limbs, so that she neither could stand nor walk without assistance. She also began to transpose her words in speaking, and to use one resembling in sound, but differing in sense from the word she

intended to employ. There was never any difficulty in articulating or in swallowing; nor was there any real paralysis, but rather a weakness and a want of co-ordination of the movements. The pulse was slow in the morning and quicker in the evening, but there was no fever. Appetite moderate; much complaint of want of sleep, though in reality the sleep was not very deficient; occasionally she would sleep the whole night. She came to town towards the end of September, and was first seen by Dr. M. Sept. 29th. She was then able to walk out a little, with assistance, and drove daily in an open carriage. The eye was nearly healed, under Dr. WILLIAMS' care. The memory was somewhat impaired, and at times there was a little delirium. The urine was twice examined for albumen, but none could be detected by nitric acid or heat. The pulse at first was about 60 in the minute, and never arose above 90. The patient could grasp firmly with the hands, but could not hold her teacup without danger of letting it drop. The power of walking failed rapidly. At the same time the delirium increased, and on the 8th of October it amounted to complete mania, the patient laboring under the most extraordinary delusions, and manifesting hostility to all about her. She refused to take food or medicine. Drs. NEWHALL and WILLIAMS saw her in consultation on the evening of the 9th, and as it was impossible to give medicine by the mouth, a few drops of a strong solution of morphia were injected subcutaneously, at about 7 o'clock, soon after which she fell asleep. At 9 1-2 Dr. M. found her sleeping quietly. At 4 A. M., it was found that she was dead. Rigor mortis was complete, and the body was cool, so that death must have taken place some hours previously (probably as early as 11 o'clock), but so quickly that the attendants, who were constantly in the room, and awake, were not aware of it.

An autopsy was not allowed.

The treatment consisted in the administration of tonics (iron and quinine), sedatives (bromide of potassium), stimulants, and as nourishing a diet as possible. Electricity was begun to be employed, with a view to improving the muscular strength, but the mental condition of the patient made it necessary to suspend it.

5. *Tubercle in the Lungs in consequence of Stenosis of the Pulmonary Artery.* By Prof. LEBERT, of Breslau.

[*Med.-chir. Rundschau*, Aug., 1867, from *Gaz. hebdomadaire.*]

During his studies on the etiology of tuberculosis, L. was surprised at the frequency of lung tubercle in cases of congenital stenosis either of the cone or of the orifice of the pulmonary artery. He collected twenty-five cases—a large number, considering the relative rareness of this condition. The frequent occurrence of tubercles in the lungs is the more surprising, as in cases of disease of the *left* heart pulmonary tuberculosis can very

seldom be found. These cases were found up to twenty-five years of age, equally frequent in males and females.

Clinical examination, as well as pathological anatomy show, in these cases, that we have to deal not with a few discreet granulations, but a tedious, progressive, severe malady. A rapid course, terminating within three or four months is a rare exception, most frequently the disease lasts for several years. The frequent occurrence of hæmoptysis in these cases is worth mentioning. At first, an improvement during the favorable season not rarely takes place, but afterwards marasmus and hectic fever ensue and continue till death. Whereas ordinarily the right lung is first affected with tuberculosis, in stenosis of the pulmonary artery the left lung is the principal seat of the disease.

6. *Clinical Notes on Dropsy of the Peritoneum: Ascites.* By S. O. HABERSHON, M.D., Physician to Guy's Hospital, etc.

[*London Lancet*, N. Y. ED. July, 1867.]

The habit of designating disease by the name of one of its symptoms is fraught with many disadvantages; but this is, unfortunately, a practice too frequently adopted. Jaundice is merely a *symptom;* but it is the name given to a *class* of diseases, although produced by a variety of conditions. Albuminuria and Bright's disease are terms of general significance; so of others in ordinary use. Thus, also, dropsy of the peritoneum, or ascites, is often simply designated *dropsy;* and we admit that there is some excuse for applying such an appellation to this effusion into the largest of the serous membranes. Ascites is often associated with anasarca; and it then constitutes a part of the general dropsy. But the varieties of peritoneal effusion are worthy of especial consideration; and it is to this *local* dropsy, in its several aspects, that I invite attention.

We distinguish several forms of peritoneal effusion—

1. From *atrophy*; as in senile wasting; in exhaustive cachexiae; and in simple anæmia.
2. Ascites from *obstruction;* as in cirrhosis; in heart disease; in chronic bronchitis; in any obstruction of the vena portæ or vena cava.
3. Ascites from *renal disease.*
4. From *glandular disease*, whether affecting the spleen or lymphatic glands, etc.
5. *Inflammatory* ascites.
6. *Strumous* ascites.
7. *Cancerous* ascites.

And although in each of these forms of peritoneal effusion the malady may be produced by some general ailment affecting the whole system, in the last three we have a more especial *local* manifestation of disease, and I have found these varieties overlooked or imperfectly understood.

1. *Atrophic ascites* is often present at the close of wasting disease. We find it in the feebleness of old age, in exhaustive cachexiae, and in simple anæmia. The effusion is of a passive kind; but it is sometimes sufficient to call for notice. The circulation in these cases is retarded, or has almost ceased, from failing power, or from fibrinous coagulation in the veins; and slow extravasation then takes place into the serous cavity and areolar tissue. It is a kind of exosmosis, and closely resembles the passage of serum into dependent parts of the body after the circulation has stopped.

2. A second form of ascites may be correctly designated *dropsy from obstruction*. Any mechanical impediment to the passage of blood from the portal system of vessels produces this variety of ascites. In several instances I have seen cancerous disease extending directly into the inferior cava, and reaching to the right ventricle, thus preventing the exit of blood from the liver, and causing engorgement of the portal circulation; and in another instance this extension took place into the vena portae itself, so that the whole structure of the liver was injected with cancerous product. In these rare cases ascites was present from mechanical hindrance to the course of the blood. More frequently we find obstructive ascites caused by chronic disease of the liver, or of the heart, or of the lungs and bronchi. In the latter varieties the legs become anasarcous, and so also in many cases of hepatic disease, as cirrhosis; for the obstruction affects the whole inferior cava, and in cirrhosis it will be found that contraction of the lobulus Spigelii hinders the free passage of blood from the inferior cava close to the heart. This form of effusion may be merely serous in its character, but, from the long continued congestion of the capillary vessels of the peritoneum, the nutrition of the serous membrane is generally more or less interfered with; the membrane becomes thickened, granular, and in color opaque; and what is of still greater importance to remember (especially in the consideration of operative relief by paracentesis), acute inflammatory changes are very easily induced, and fibro-albuminous product is quickly poured out. I would, *en passant*, refer to a rare form of passive ascites from obstruction which I have witnessed on two occasions, in which the effusion had a milky aspect, and was in part of a chylous character. In one of these cases the pressure involved the thoracic duct; and in the other the mesenteric lacteal vessels were very much distended, from obstruction in the mesenteric glands.

3. A third form of ascites is that connected with *renal* disease. Acute albuminuria, whether following scarlet fever or from other cause, is often accompanied by serous effusion into the peritoneum, as one of its symptoms, in common with general anasarca; and there is a great tendency to serous inflammation in this disease, apparently from the presence of urea in the serum. The peritoneum shares in this disposition; so that in an analysis of instances of peritonitis I found that, out of 500 fatal cases, 63 were in connection with renal disease. These instances of ascites with general anasarca do not call for special treatment. As the renal affection subsides the fluid becomes absorbed; and the best mode of treatment is that directed to the relief of the original malady. But there are conditions in which we find renal disease with ascites without general anasarca; I

refer to renal with hepatic disease, whether it be chronic contraction of the liver and kidneys, as cirrhosis, or lardaceous disease. The ailment is of a chronic kind, and the improvement very slow; whilst the ultimate recovery depends on the state of the constitution.

4. A fourth variety of ascites might justly be called *glandular*. The peritoneal effusion is secondary to disease of important glands, by which the composition of the blood is changed. The ascites may be only part of a general dropsy. These instances arise from affections of the spleen and of the lymphatic glands, whether the change be one of congestion, of inflammation, of lardaceous, or other disease. The effusion is of a passive kind, and the treatment wholly of a constitutional character.

In other instances the ascites may be regarded as more especially of peritoneal origin, although the constitution is also at fault. The local treatment is of greater value than in the preceding forms of disease, for it is in the serous membrane that we have the manifestation of morbid action.

5. Of these latter varieties it is important to notice ascites from *inflammatory* change in the serous membrane; but I have never witnessed ascites as a sequence of acute peritonitis. The acute disease, if not speedily fatal, more frequently produces adhesions; but the class of cases I refer to are of an entirely different kind; a subacute change in the serous membrane comes on, often *without pain*, and the abdomen is found gradually to enlarge, fluctuation is distinct, no glands can be felt, tenderness is absent, and general nutrition may be but slightly impaired. Sometimes the abdomen feels hot to the touch, and there is some tenderness; the pulse is irritable, the tongue reddened, the appetite fastidious, and the secretions perverted. The symptoms are more frequently found in strumous disease, and the peritoneal dropsy to which I now allude is often entirely void of pain and constitutional disturbance. I have found it in young subjects after exanthems. In some the irritation has apparently commenced in the pelvis, with subacute mischief about the ovaries. A third cause has seemed to be muco-enteritis, from improper food and the neglect of hygienic measures; the derangement of the mucous membrane and of the abdominal glands being propagated to all the coats of the intestine.

Patients affected with this form of disease usually recover; but I have found in several cases that the most effectual way of retarding that recovery is to administer mercurials, and to exhaust the system by powerful medicines. Nourishing diet, gentle action on the bowels, cod-liver oil, steel wine, by establishing the health and by inducing general vigorous action, are followed by the absorption of the abnormal product and by complete restoration. An instance of this kind was under my care in the last clinical session at Guy's: the effusion had come on without any pain, and except that the abdomen was large, the child, aged about twelve, was free from suffering.

6. *Strumous* ascites is presented in practice under several different forms. In one variety numerous tubercles are spread upon the serous membrane, lymph is formed, the intestines become matted together, and in the subsequent course effusion of serum may follow; or, from the

extension of ulceration from the mucous to the serous membrane, fæcal extravasation takes place. In some of these cases, deposit upon the *mucous membrane* precedes the peritoneal affection. The degeneration of the strumous deposit is followed by ulceration. The peritoneum becomes congested at the affected part, and then a cluster of tubercles forms on the serous membrane. In this condition there is cachexia; the abdomen is enlarged; the patient is weak and exhausted; the bowels are at one time relaxed, at another confined; the pulse is irritable; the tongue red, injected, uniformly at the tip and edges; the cheek is often irregularly flushed; there are repeated attacks of pain in the abdomen, and on physical examination it is found to be hot, irregularly resonant, and the intestines do not move easily—they move *en masse.*

In a second form of strumous disease of the abdomen there is irritation of the mucous membrane, followed by flatulent distention and gradual exhaustion. In these instances there may be no pain and no effusion; consequently it is not ascites.

In a third form of tubercular disease there is serous effusion with or without enlargement of glands, and often without pain. These cases closely resemble the inflammatory effusions to which I have before referred, and are best relieved by improving the general health.

7. The last form of peritoneal disease causing ascites arises from disease of a *cancerous* character. I do not refer to the formation of cancerous tumors in the lumbar, mesenteric or other glands, which occasionally cause serous effusion, with thickening and inflammation of the peritoneum; nor to the deposit of cancerous product in the omentum and other parts, sometimes associated with much fibroid tissue, or with pigmental deposit, then spoken of as melanosis; but to a form of ascites connected with the deposit of a large number of tubercles upon the whole of the serous membrane. These tubercles are composed of nuclear deposit, and some are of a vascular character; they apparently commence in the subserous tissue. These instances are more frequent in women beyond fifty years of age. The abdomen is prominent, and fluctuation is distinct; the malady comes on gradually, and pain is not a marked symptom. * * *

It is not my intention to discuss the treatment of dropsy; but it will be admitted that the recognition of the character of the malady is an essential element in the success of our practice. Unfortunately, powerful remedies are often used very indiscriminately; mercurials are prescribed when they can do no good, and diuretics are expected to promote the absorption of serum when they themselves are not absorbed. Purgatives are agents sometimes very beneficial, or again most disastrous in their effects. In the ascites connected with general atrophic changes, our hope of relief is by sustaining the system; in the obstructive ascities connected with pulmonary and cardiac disease, free action on the abdominal glands and in the bowels by mercurial or other purgative and diuretic medicines afford great relief; but in the hepatic obstruction and ascites, the diuretics are most unsatisfactory, for they are not absorbed. Again, in glandular ascites, hydragogue cathartics are often followed by speedy diminution of the ascites. In strumous disease and in cancerous tubera on the peritoneum,

all these depressing measures are alike injurious, and their use may be followed by increased effusion and exhaustion, or they may cause acute inflammatory disease. Powerful purgatives, sometimes beneficial in these cases, are always attended with risk. Even in instances of ascites connected apparently with an abnormal condition of the liver, rapid absorption will take place without any mercurial medicines, although these are very often prescribed. * * * The ascites from the *splenic enlargement* of miasmatic poisoning sometimes disappears in a short time under the use of quinine. * * *

In few diseases is the fact more obvious than in ascites that each case must be regarded in its own particular bearings, and it is as impossible as it is unwise to lay down positive rules of treatment. In many of the forms of ascites that we have mentioned paracentesis abdominis would be utterly out of the question, whilst in others it tends not only to relieve most distressing distension, but to prolong life for many months, or even years. But there are three states in which the operation is attended with unusual danger and liability to great prostration or acute peritonitis: 1, excessive feebleness of the heart's action; 2, persistent congestion of the peritoneal vessels; and 3, local organic change in the serous membrane. It is the settled opinion of many practitioners that mercurial medicines always promote absorption, and that diuretics and purgatives have a like effect; whereas it will often be found that the most effectual way of promoting the absorption of diseased products is to re-establish, if possible, healthy nutritive action.

Meteorology at St. Louis.

METEOROLOGY OF NOVEMBER AND DECEMBER, 1867.

By GEORGE ENGELMANN, M.D., St. Louis.

	NOVEMBER.		DECEMBER.	
	1867.	Average.	1867.	Average.
Barometrical Pressure—				
Mean,	29″.574	29″.570	29″.562	29″.605
Highest,	30″.040	30″.381	30″.134	30″.296
Date,	5th.	8th, 1856.	8th.	6th, 1856.
Lowest,	28″.975	28″.724	28″.959	28.″518
Date,	3d.	18th, 1857.	11th.	8th, 1855.
Temperature—				
Mean,	48°.2	43°.5	35°.6	33°.9
Highest,	76°.0	81°.5	71°.0	74°.5
Date,	2d.	11th, 1837.	25th.	9th, 1861.
Lowest,	7°.5	—0°.5	12°.5	—7°.0
Date,	30th.	28th, 1845.	18th.	31st, 1863.
Evaporation,	5°.9	4°.3	2°.7	2°.7
Relative Humidity,	59.5	67.0	74.2	74.3
Rain and melted snow—				
Quantity,	2″.74	3″.14	3″.65	3″.18
Days on which it fell,	7	7	8	7
Thunder storms,	1	1	2	1
Principal Winds,	S.	W., next SE.	SE., then NW.	SE., then W.
Cloudiness,	4.2	5.3	6.5	5.3
Fair days,	14	10	8	10
Variable days,	12	13	13	13
Days without sunshine,	4	7	10	7
Stage of River—				
Mean,	5′.5	7′.2	3′ 4	5′.9
Extremes,	5′.3—6′.0	2′.3—13′.5	1′.3—5′.6	0′.0—14′.7

Both November and December have been warmer than the average, and thus continued an uninterrupted series of warm months, which since June have been from 0.3 (July) to 4.7 degrees (November) warmer than their respective mean. But in every other respect these two months were by no means similar. November was a genial successor of the clear and dry autumnal months preceding it; with a high stage of the barometer, inconsiderable, not to say insufficient, quantity of rain, low relative humidity, a high degree of evaporation, an unusual number of fair days, and the prevalence of southerly breezes. The cool morning of the 12th, when the thermometer for the first time in the season fell below the freezing point in the city (in the country frost had set in much earlier, in October), was succeeded by over two weeks of warm weather, until we had the first snow on November 29th, and a severe frost next day, the coldest day of

the winter thus far. From this day the weather changed, and December was in most respects the reverse of its predecessor; it exhibited a low barometrical pressure, cloudy, dark, and very changeable weather, with the unusual number of ten days on which the sky was completely overcast. The evaporation and relative humidity were of an average, and the quantity of rain (and melted snow) somewhat larger than usual.

To the favorable atmospheric condition of November must be ascribed the comparative immunity of our city from the fevers of low degree, which after the unusual prevalence of intermittents in the preceding month were greatly apprehended. The weather in December was not so favorable, and pulmonary affections and some typhoid fever occurred more frequently. Nevertheless, the mortality in the city steadily decreased during this period, and in fact since the 1st of October, until the weekly number of interments had reached the low figure of 92. We have enjoyed an absolute freedom from epidemic diseases and from any eruptive fevers; so much so, and for such a length of time, that it becomes an interesting subject of research, how a city of such magnitude, such a centre of travel and emigration, could so long remain without developing the germs of disease which, without doubt, very often have been brought into it. Would it not seem that human agency has much less to do with these matters than atmospheric or other general conditions, which, thus far, have escaped our research and our control?

COMPARATIVE METEOROLOGY OF THE AUTUMNS AT ST. LOUIS.

	1867.	1866.	Average.
Barometrical Pressure—			
Mean,	29″.589	29″.564	29″.569
Highest.	30″.040	30″.039	30″.381
Date,	Nov. 5.	Nov. 5.	Nov. 8, 1856.
Lowest.	28″.975	29″.040	28″.724
Date,	Nov. 3.	Oct. 21.	Nov. 18, 1857.
Temperature—			
Mean,	59°.4	55°.5	56°.3
Highest,	92°.5	87°.5	102°.5
Date,	Sept. 18.	Sept. 2.	Sept. 2, 1864.
Lowest,	7°.0	25°.0	—0°.5
Date,	Nov. 30.	Nov. 30.	Nov. 28, 1845.
Evaporation,	6°.8	4°.6	5°.3
Relative Humidity,	62.3	71.7	68.3
Rain and melted snow—			
Quantity,	4″.22	13″.91	9″.63
Days on which it fell,	13	24	21
Thunder storms,	5	5	7
Principal Winds,	S. then SE.	SE.	SE.
Cloudiness,	3.5	4.6	4.3
Fair days,	49	37	40
Variable days.	33	43	38
Days without sunshine,	9	11	12
Stage of River—			
Mean,	7′.3	12′.0	8′.4
Extremes,	5′.3—12′.5	7′.5—21′.0	2′.3—21′.0

The remarks made above and in the last number, make it almost unnecessary to say any thing more about the meteorological condition of the autumns. I have not noted a warmer autumn in the last 33 years, with the exception of those of 1854 and 1865, nor a drier one, except those of 1844 and 1845, nor a clearer and fairer one, unless it was that of 1851.

COMPARATIVE METEOROLOGY OF THE LAST YEARS AT ST. LOUIS.

	1867.	1866.	1865.	Average.
Barometrical Pressure—				
Mean,	29″.533	29″.561	29″.553	29″.543
Highest,	30″.134	30″.510	30″.268	30″.510
Date,	Dec. 8.	Jan. 8.	Dec. 14.	Jan. 8, 1866.
Lowest,	28″.792	28″.842	28″.769	28″.516
Date,	Jan. 20.	May 27.	Feb. 25.	Mch.28,1859.
Temperature—				
Mean,	55°.4	55°.1	55°.9	55°.6
Highest,	97°.5	100′.0	97°.0	104°.0
Date,	Aug. 12.	Aug. 12.	July 5.	July 21, 1860.
Lowest,	1°.0	—9°.0	—2°.0	—22°.5
Date,	March 14.	Feb. 15.	Dec. 21.	Jan. 1, 1864.
Evaporation,	6°.2	5°.6	5°.0	5°.8
Relative Humidity,	65.2	67.4	70.3	66.6
Rain and melted snow—				
Quantity,	37″.76	43″.20	46″.87	44″.25
Days on which it fell,	79	95	110	93
Thunder storms,	35	39	40	44
Principal Winds,	SE. next NW.	SE. next NW.	SE. next NW.	SE.next W.and NW.
Cloudiness,	4.6	4.6	4.5	4.5
Fair days,	137	124	150	141
Variable days,	175	192	169	173
Days without sunshine,	53	49	46	50
Stage of River—				
Mean,	14′.5	14′.1	13′.2	12′.7
Extremes,	1′.3—28′.2	5′.7—26′.8	1′.2—26′.7	0′.0—41′.4

This table shows that in the past year the mean state of the barometer was a little lower than the average, which is owing to the unusually low atmospheric pressure in January, February, April, May and December. The year was not quite as warm as the average, which is owing to the low temperatures of January, March and May; all the other months of the year, except April, which was only half a degree cooler than the average, ranged above it, and none more than February, June and November. The extremes of temperature were unusually moderate; on Jan. 18 and March 14 (the first time that I observed so low a temperature at so late a date), the thermometer ranged a little above zero, and in June, July and August the highest temperatures experienced were between 94.5 and 97.5 degrees.

The low relative humidity and the power of evaporation were unprecedented in 15 or more years. The rain, 37.76 inches in the whole year, 6.5

inches less than the average, fell mostly in May, June and February, while April, September and October were among the driest or the driest months experienced here within one-third of a century. A smaller quantity of rain than in the past year fell here in 1842, 1843, (two years in succession, and preceding the year of the flood, 1844,) 1853 and 1860 (with only 29.75 inches); in 1845 and 1864 about the same quantity was observed as last year. Years of excessive rain were 1848, with 65.36; 1858, with 68.83; and 1859, with 61.40 inches.

The public health throughout the year has been excellent; with the exception of the short and comparatively restricted cholera epidemic at the end of September and the beginning of October, which has been discussed in the last number of this journal, we enjoyed a complete immunity from epidemic affections, and the intermittents, which about the same time endemically prevailed over the whole western country, were generally of a mild type, and, as usual, scarcely affected the inhabitants of the city proper. The mortality, which for the first months in the year amounted to about one death a week for every 3,000 inhabitants, has at the end of the year returned to nearly the same ratio. The whole mortality in the city, including that from cholera, amounted during the year to not more than 28 to one thousand inhabitants, or one death in about 35 of the population,* a proportion which is highly satisfactory and very encouraging.

* The calculation is based on the assumed number of our population of 230,000, and a mortality of 6,500 in the last year.

REPORT OF ATMOSPHERIC ELECTRICITY. TEMPERATURE, AND HUMIDITY.

FROM OBSERVATIONS MADE AT ST. LOUIS, MO., BASED ON DAILY OBSERVATIONS AT 6, 9, 12, 3, 6, AND 9 O'CLOCK, FROM MORNING TILL NIGHT.

By A. WISLIZENUS, M.D., St. Louis.

1.—*Monthly Mean of Positive Atmospheric Electricity.*

YEAR.	MONTH.	6 a.m	9 a.m	12 m.	3 p.m.	6 p m.	9 p.m.	MEAN OF MONTH.	NO. OF THUNDER STORMS.	PREVAILING WINDS.
1867.	Novem.	6.4	8.0	5.3	2.7	1.6	1.3	4.2	1	SE., NW.
1867.	Decem.	5.2	5.7	5.2	3.7	3.5	2.1	4.2	2	SE.

2.—*Monthly Mean of Temperature, Fahrenheit.*

YEAR.	MONTH.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.
1867.	November.	42.2	45.9	54.7	55.2	50.6	46.9	49.2
1867.	December.	31.6	34.2	38.6	40.1	37.2	34.9	36.1

3.—*Monthly Mean of Relative Humidity.*

1867.	November,	80.2	69.6	54.7	51.5	61.4	72.3	64.9
1867.	December,	87.6	77.7	71.6	69.3	78.4	81.0	77.6

YEARLY REPORT OF ATMOSPHERIC ELECTRICITY, TEMPERATURE, AND HUMIDITY, FROM OBSERVATIONS MADE AT ST. LOUIS, MO.

By A. WISLIZENUS, M.D.

1.—*Monthly Mean of Positive Atmospheric Electricity in* 1861–1867, *based on daily observations at* 6, 9, 12, 3, 6, *and* 9 *o'clock, from morning till night.*

ATMOSPHERIC ELECTRICITY.

YEAR.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Mean of Year.
1861	16.5	12.1	9.8	8.8	7.8	4.0	3.7	3.4	3.0	7.1	10.0	14.3	8.4
1862	12.1	16.0	9.4	10.6	7.5	3.0	2.2	2 3	3.0	7.7	12.6	13.9	8.4
1863	16.9	15.9	13.6	8.8	4.7	2.0	2.8	4 4	4.8	12.5	12.1	11.5	9.2
1864	15.8	11.3	11.0	8.5	5.1	4.0	2.3	0.9	1.8	5.4	6.6	9.0	6.8
1865	12.2	9.5	5.9	3.3	2.4	3.4	2.6	5.9	1.2	5.3	10.1	6.4	5.7
1866	5.9	8.1	5.7	2.1	3.3	2.1	2.4	5.1	3.2	7.0	10.2	7.0	5.2
1867	9.2	8.2	6.5	3.3	2.9	2.8	2.7	5.2	3.5	3.0	4.2	4.2	4.6
Mean	12.7	11.6	9.0	6.5	4.8	3.0	2.7	3.9	2.9	6.9	9.4	9.5	6.9

2.—*Monthly Mean of Temperature and Relative Humidity in* 1861–1867, *based upon daily observations contemporaneous with those of Atmospheric Electricity.*

TEMPERATURE.

YEAR.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Mean of Year.
1861	32.2	40.4	44.8	58.1	64.1	76.9	77 5	78.6	69.1	57.9	46 0	39.7	57.1
1862	28.9	30.2	43.2	55.0	69.7	75.1	81.2	80.7	72.1	57.3	42.6	41.3	5.64
1863	36.8	35.7	43.6	57 4	65.5	71.9	77.2	77.5	69.2	48.0	43.7	35.9	55.2
1864	29.2	38.3	40.7	51.4	69.4	78.9	83.5	78.8	72.9	53.1	44.9	30.4	56.0
1865	28.1	38.4	46.7	56.8	68.8	80.7	77.7	78.1	77.8	58.8	48.0	30.8	57.5
1866	32.2	33.4	42.2	61.2	66.3	75.3	82.2	76.8	64.0	59.3	46.6	33.3	56.0
1867	25.4	39.1	34.1	56.7	61.1	76.9	81.3	81.4	68.5	59.6	49 2	36.1	55 8
Mean	30.4	36.5	42.2	56.7	66.4	76.5	80.1	78.8	70.5	56.3	45.9	35.4	56.3

RELATIVE HUMIDITY.

1861	72 2	63 3	64.5	61 5	66.3	70 8	66 3	69.6	77 3	76.6	69.0	74.3	69.5
1862	85.3	73 9	70.8	67.0	57.3	67 0	66.8	64.3	74 2	67.2	69.5	74.6	69.8
1863	79·2	81.7	68 1	57.2	59.4	67 7	68 6	70 7	68 2	74.4	67.4	79.5	70.2
1864	75·6	62 7	70 0	69.8	56 4	61 5	62 8	69 0	64 1	67.9	74.2	75.5	67.4
1865	74 6	72.0	66.1	66.8	62.1	67.9	77 4	71 7	76.8	74.1	62.3	78.8	70.9
1866	75 1	70.6	69 1	60 6	59.7	66 0	68.2	66 7	81.8	71.7	72.5	76.8	69.9
1867	76.2	73 5	75·7	59.1	61 4	64 8	63 9	60 0	63.7	67.9	64.9	77.6	67.4
Mean	76.9	71.1	69 2	63.1	60.4	66.5	69.0	68.7	72 3	71.4	68.5	76.7	69.3

3.—*Yearly Mean of Positive Electricity, of Temperature and of Relative Humidity of the Atmosphere at the hours of* 6, 9, 12, 3, 6 *and* 9, *from morning till night, based upon daily observations at those hours in* 1861—1867.

ELECTRICITY.

Year.	6 A. M.	9 A. M.	12 M.	3 P. M.	6 P. M	9 P. M.
1861	8.5	9.9	9.0	7.7	8.5	6.8
1862	8.9	10.0	9.1	7.3	8.1	6.8
1863	10.5	10.6	10 0	7.5	9 1	7.4
1864	7.9	8 8	7.4	5.4	5.9	5.5
1865	6.4	7.1	6 0	5.3	5 4	3.8
1866	5.5	6.2	5.2	4.5	5.2	4.4
1867	5.2	5.6	4.9	4.2	4.3	3.8
Mean:	7.6	8.3	7.4	6.0	6.6	5.5

TEMPERATURE.

1861	48.9	54.9	61.6	63.6	59.3	54.3
1862	48.9	55.0	60 9	62.3	58.0	53.6
1863	47.5	53.6	59.7	61.0	57.2	52.2
1864	48 0	54.1	60.5	62.2	58.1	53.0
1865	50.4	55.8	61.8	63.3	59.3	54.7
1866	48 4	54.6	60 3	61.9	57.9	53.4
1867	48 4	54.2	60.0	61.4	57.4	53.3
Mean:	48.6	54 6	60.7	62.2	58 2	53.5

RELATIVE HUMIDITY.

1861	86.4	71.3	60.3	57.2	65.1	77.3
1862	85.3	70.6	60.0	57.5	67 6	78.0
1863	86.8	71.4	60 2	58.0	66.7	77.9
1864	83.9	69.3	57.7	55.0	64 0	74.8
1865	84.7	71.7	61.3	59.0	68.3	78 9
1866	84.9	70.1	60.6	58.6	67.4	77.8
1867	83.1	68.4	57.9	55.0	64.6	75.4
Mean:	85.0	70.4	59.7	57.2	66.2	77.2

Editorial.

MEDICAL EDUCATION.

The proposed plan of reform, which has been laid before the medical schools by the recent Convention of Medical Teachers, is now awaiting its adoption by all, or its partial or total rejection. We could not call it a condemnation if the proposal were to be rejected, for we believe that the great majority of those engaged in medical teaching sincerely approve of the plan. Only a single voice, as far as we have learned, has been raised against it, and that, we are sorry to say, emanated from this city. But the almost universal favorable opinion held upon the subject abstractly does not by any means seem certain to secure the adoption of the measures proposed. The wretched question of expediency, which so largely governs the motives and actions of men, will in all probability mar, if not defeat, the cherished hope of a speedy elevation of the educational standard. The argument of impracticability is already advanced by some, and we would call attention, for example, to the comments of the *Cincinnati Lancet and Observer:* "Many of us in that Convention voted for these resolutions, fully believing them utterly impracticable for the present," etc., says the editor; and coming from this source (the Miami Medical College of Cincinnati) it is a valuable straw to show whence the wind blows.

We can not agree in the opinion that the proposal is merely "a theoretical declaration of a desirable system of education, to be worked for, and to which we must strive to educate the great mass of the profession." The profession is agreed as to the necessity of higher standards; the question of expediency lies with the individual schools alone; in one sense it is the great mass of the *professors* that should be "educated" to the "desirable system." We can not yet give up the hope that the resolutions of the Convention will be adopted *in toto*, though it is plain that the probabilities are against them. Perhaps the resolutions adopted in the recent meeting of the Missouri Medical Association may exert some influence in this direction.

If it be true, however, that the majority of our medical schools find it inexpedient to raise themselves from their humble station, at least a part of the programme should by all means be adopted. The more practicable reforms should not suffer by the rejection of the others. All the measures proposed are good, and no valid theoretical objections to them seem to be expressed. But it is more especially the first of the proposals that can be introduced by any school which really has the advancement of its pupils at heart,—the requirement of *a certain standard of preliminary education preparatory to matriculation.*

"The longest lectures are of little use to students who want a common education," said Dr. BIGELOW;—a proposition no one is likely to combat; it is self-evident. And yet the whole force of the truth seems not to be felt by the medical community. Were it otherwise, we could not account for the fact that medical colleges are at the present day pretending to teach young men an extensive, complicated science and a difficult art, regardless of the presence or absence of a sound foundation for the enormous superstructure. This, however, is the point in which the schools seem to be least sustained by the medical public. We greatly fear that the profession generally are not sufficiently impressed—not sufficiently *shocked* by the deficiency in ordinary education of some of its members. They look more particularly to professional attainments; but there are many who do not rightly esteem the necessity and value of a cultivated mind also, simply because they do not *know* it.

Abundant material for studying this subject in all its bearings, and especially the evil influence that a low measure of school training has upon the acquirement of a true knowledge and just ideas of scientific subjects, is accumulating upon our editorial table. One correspondent (an M.D.) tells us of a feble woman in labor who took spasums; he let blood and gave crude opi three gr.; finally he delivered her by the aid of four women holding her, of a still Born mail child and of the placenty, whereupon she had another spasum, and he gave morphe; she then lay unconces, etc. The unfortunate still Born mail child had light spasums for severel days. —This, of course, is one of the worst examples; but it exhibits in a strong light the consequences of admitting illiterate persons to the doctorate. Milder forms of the same symptoms are perceptible in many other communications we receive,—less amusing, but more shocking, considering their source.

Surely, our medical schools must feel that it is *cruel* to admit insufficiently prepared persons to the study of medicine. A certain amount of brain and degree of mental discipline are necessary to the understanding of the simplest anatomical descriptions or physiological laws. Aside from the common English branches, a proper mathematical groundwork is required, as well as a knowledge of the first principles of natural philosophy, (especially of mechanics, hydrostatics and pneumatics), as the Professor of Chemistry usually embraces the consideration of heat, light and electricity in his lectures. The latter custom likewise is one of the vicious features of the present system; for it materially curtails the course of chemistry, in order to teach what we ought to presume every *educated* young man to be familiar with;—and none but such are fit to enter upon a scientific career. We see the same complaint in British papers, and even hear the desire expressed, that both physical and chemical knowledge be required preparatory to admission in medical schools.

Of Latin and Greek, the Convention propose to demand of the freshman "sufficient knowledge to understand the technical terms of the profession." We hope that this phraseology indicates only the measure, not the motive of the demand. The study of these languages is truly valuable only as a most efficient intellectual training; though at the same time it is

highly desirable that the frequent blunders in technical Latin expressions we meet with in books, periodicals and manuscript, should disappear. The tendency is in the *other* direction; and there is danger that some of them may become classical by constant use.* Every druggist's file exhibits specimens that will satisfy any one interested of the necessity of requiring the medical matriculant to know *at least* so much of Latin as to write a prescription properly; and this amount indeed is indispensable as preparatory knowledge.

In brief, it is but right and honorable that every medical school should demand a passport from all who wish to enter its portals, which will give evidence of sufficient mental culture.—Is it *inexpedient?*—The vast majority of those who feel incompetent to pass the preparatory examination would speedily set about acquiring the requisite knowledge, with incalculable and permanent benefit to themselves; the trifling remainder would be composed of such as would prove, at any rate, a discredit to their Alma Mater. Thus the total number of students would scarcely be diminished; there can be no earthly reason on the part of any school to reject *this* proposition, and harmonious action by all would secure to all the vast advantages of the plan, and a disadvantage to none.

BIBLIOGRAPHICAL NEWS.

The year we are about to enter will witness the issue of the first American HOSPITAL REPORTS,—the very best proofs of an active medical life in our country. They will be both evidence of the vigor and zeal of American observers, and the means of instilling increased energy into the scientific study of medicine on this continent. The old PENNSYLVANIA HOSPITAL of Philadelphia will lead off with its first annual volume, the BELLEVUE and CHARITY of New York follow close upon it, and in the course of a few years we may fairly expect that a number of other institutions will be stimulated into a noble rivalry. Messrs. Lindsay & Blakiston promise this month to issue the first volume of "*Pennsylvania Hospital Reports*," which is to contain papers by Drs. GERHARD, LEVICK, J. F. MEIGS, DA COSTA, HEWSON, MORTON, HUNT and AGNEW. It is "to be published annually, and to form an octavo volume somewhat similar in character and size to the London or Guy's Hospital Reports." Success can not fail to attend these enterprises.

A commendable undertaking, also, is the "*Half-Yearly Compendium of Medical Science*," to be published by the editors of the *Philadelphia Medical and Surgical Reporter*. It will present a synopsis of practical medicine, surgery, and medical literature on the plan of Ranking's or Braithwaite's, with less exclusive devotion to British productions.

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* In a late number of an exchange we find the adjective "praepartum," coming from Bellevue Hospital. We hope it will not be perpetuated.

A new edition of RENOUARD'S *History of Medicine*, translated by Prof. COMEGYS, of Cincinnati, has just been issued by Messrs. Lindsay & Blakiston.

Anatomy and Physiology.—At Leipsig, Prof. W. BRAUNE publishes an Atlas of Topographical Anatomy, the plates representing sections of frozen bodies prepared after a new method, to comprise 5 numbers, of 5 folio plates, with about 16 pp. of text and wood-cuts each. The first number has been issued in March. Zell & Co., Phila., propose to republish, by subscription, RUEDINGER'S *Atlas of the Nervous System*, consisting of 40–50 life size photographic illustrations, taken from subjects carefully prepared by the author. As the work comes highly recommended by Prof. BISCHOFF, of Munich, the price of forty dollars will probably not be considered too high. The same author has just published, in Munich, two fasciculi of a photographic *Atlas of the Human Auditory Organ*, each consisting of 4 chromolithographs, 8 photographs, and some text in large quarto.—From the press of Wm. Wood & Co., N. Y., we are to have a reprint of BEALE'S interesting little book *On the Structure and Growth of Tissues, and on Life.* VIRCHOW'S great work on *Tumors* is approaching completion.—The Messrs. Longmans, Green & Co., London, are publishing two vols., 8vo., of *Outlines of Physiology*, by JOHN MARSHALL, F.R.C.S. From Germany we have a new brief *Physiology* by RANKE, and a new edition of HERMANN'S *Grundriss.* Prof. HERING has given us the first of three numbers of a volume on *Binocular Vision*, Leipzig. 8vo.

Practical Medicine.—The reprint of the third part of TROUSSEAU'S *Lectures on Clinical Medicine*, BAZIRE'S excellent translation, is in preparation with Lindsay & Blakiston. An important work is in process of publication in Berlin which bids fair to become the German standard work on the diagnosis of diseases of the chest: Prof. TRAUBE'S lectures on *the symptoms of diseases of the respiratory and circulatory apparatus*, the first part of which has been issued early this year. In this country, the latest novelty on this subject is FULLER, *on Diseases of the Lungs and Air-Passages*, a reprint by H. C. Lea from the second London edition. The advance in our pathological and therapeutical knowledge of the diseases of the larynx, which laryngoscopy has caused, is creating a large and increasing literature on the subject. Beside some works already in the American market, a work on *Laryngoscopy* by Dr. RUPPANER of New York is just out (Simpson & Co.), of which we have had specimen chapters in the New York Medical Journal; and we are expecting a translation, by BEARD, of TOBOLD'S *Chronic Diseases of the Larynx* (Wm. Wood & Co.), the original of which is favorably criticised in the German journals. A French translation of MORELL-MACKENZIE has been issued during the past year. Messrs. Wood & Co. are preparing a new edition of BUDD'S *Diseases of the Stomach.* Two new and extensive illustrated works on skin diseases are announced: *Atlas der Hautkrankheiten*, after originals by BÆRENSPRUNG and HEBRA, drawn by Dr. C. Heitzmann of Vienna; text after HEBRA (F. Enke in Erlangen); the first number has been published, containing 10 chromolithographs, folio size, and text; to be completed in five numbers;—and DAMON'S *Photographs of Diseases of the Skin*, taken from

life, quarter life size, to embrace 24 photographs in all (James Campbell, Boston).

Surgery.—The armamentarium of Surgery has been ably described by Surgeon P. S. WALES, U. S. Navy. in his *Practical Treatise on Surgical Apparatus, Appliances and Elementary Operations*, just issued by Henry C. Lea. A similar work is appearing in France; GAUJOT, *Arsenal de la Chirurgie contemporaine*, to form two vols., the first of which has been issued by J. B. Baillière et fils.—Mr. T. HOLMES, Surgeon to the Hospital for Sick Children in London, the able editor of the "System of Surgery," has written an octavo volume on the *Surgical Diseases of Infancy and Childhood*, which not long ago was announced as "nearly ready" by the Messrs. Longmans, Green & Co. of London. The same publishers announce: PEMBERTON, *Clinical Illustrations of various forms of Cancer*, imperial quarto, with 12 plates; and MOORE, *Rodent Cancer*, with photographic and other illustrations of its nature and treatment, octavo.—CULLERIER'S *Atlas of Venereal Diseases* is about to be republished by Mr. Lea, with an edition of text by BUMSTEAD.

The Anatomy and Diseases of the Eye, by Prof. STELLWAG V. CARION of Vienna, has been translated by Drs. HACKLEY and ROOSA, and will soon be issued by Wood & Co. Ticknor & Fields have published: CLARKE, Observations on the Nature and Treatment of *Polypus of the Ear.*

SALTER (Dental Surgeon to Guy's Hospital) *On the Surgical Diseases of the Teeth and Contiguous Structures, with their treatment*, is announced by the Messrs. Longmans, London. We hear of a second edition of TAFT'S *Operative Dentistry*, revised and enlarged, in preparation by Lindsay & Blakiston.

Obstetrics.—Dr. ELLIOTT'S *Obstetrical Clinic* has just appeared in New York (D. Appleton & Co.), and is receiving favorable comments from the medical press. Mr. Lea promises a reprint of TANNER *on the Signs and Diseases of Pregnancy.*

The same publisher has just sent us the third American edition of WEST'S *Diseases of Women*, and announces a practical treatise on *Diseases of Women* by Prof. THOMAS of New York. The valuable, eminently practical work of GRAILY HEWITT on the diagnosis and treatment of *Diseases of Women*, including the diagnosis of pregnancy, which has just been issued by Messrs. Longmans, London, in its second edition, "enlarged and in great part re-written, and illustrated with numerous woodcuts," will be reprinted by Lindsay & Blakiston; also SKEY'S six lectures on *Hysteria*, lately issued by the same London firm. Wood & Co. are reprinting the third British edition of TILT, *on Uterine and Ovarian Inflammation.* The French press has lately brought us BOINET, *Traité pratique des maladies des ovaires*, etc., etc.

On Diseases of Children we have a sixth edition, revised and elarged, of CONDIE'S work (H. C. Lea); and in France, DAMASCHINO, on the different forms of *Pneumonia in Children.*

Therapeutics.—A new edition of STILLE'S *Therapeutics and Materia Medica* will be ready this month (Lea), and a third revised edition of WOOD'S *Treatise on Therapeutics and Pharmacology*, or Materia Medica,

is in press (Lippincott & Co.) Wood & Co. announce a book with an interesting title: GARROD, *The Value of Medicine in the Treatment of Disease.* Lindsay & Blakiston have undertaken to publish a translation, by Dr. M. J. DE ROSSAT, of *Bouchardat's Annuaire de Thérapeutique* (for 1867),—an annual enjoying an extended circulation in France.—Wood & Co.'s list of works in press contains also: MORGAN, *Electro-Physiology and Electro-Therapeutics.*

Cholera Statistics.—We are indebted to Dr. W. W. GRISSOM, our efficient Health Officer, for the materials embodied in the table below. The figures relating to the deaths from cholera in the past year are abstracted from the extensive report of that officer to the Board of Health for 1867, and were compiled with assiduous care and industry, independent of the records of the Board. Those for 1866 are likewise collected by Dr. GRISSOM, and taken from the official record. The others are from Dr. THOS. REYBURN'S report on previous epidemics. (*St. Louis Medical Reporter*, Dec. 1, 1866.) For calculating the ratio of deaths per mille of inhabitants for 1866 and 1867, we have assumed the number of inhabitants of St. Louis as 220,000 and 230,000, respectively.

Deaths from Cholera in the City of St. Louis in the Epidemics which have occurred from 1849 to 1867.

WEEK ENDING	1849	1850	1851	1852	1854	1866	1867
June 22	....	....	.. .	....	....	....	6
" 29	....	....	....	....	....	....	....
July 6	....	....	....	....	....	....	1
" 13	....	...	....	....	....	....	....
" 20	....	....	....	....	....	....	2
" 27	....		...	....	....	....	1
Aug. 3	....	....	....	....	....	5	9
" 10	....	....	....	....	....	120	14
" 17	....	....	....	....	....	754	34
" 24	....	....	....	....	....	991	33
" 31	....	....	....	.. .	....	520	17
Sept. 7	....	....	....	....	....	495	11
" 14	....	....	....	...	....	294	24
" 21	....	....	....	....	....	203	38
" 28	....	....	....	...	....	81	211
Oct. 5	....	....		....	....	30	129
" 12	....	....	....	....	....	19	64
" 19	....	....	....	....	....	6	25
" 26	....	....	....	....	....	4	35
Nov. 2	....	...	....	....	....	3	12
" 9	....	....	....	....	....	2	2
" 16	....	....	...	....	....	...	4
" 23	....	....	....	....	...	....	4
" 30	....	....	....	....	....	....	7
Dec. 7	....	....	....	...	....	....	1
TOTAL	4317	883	845	802	1533	3527	684
Ratio per mille of inhabitants	54.0	9.8	8.4	7.3	12.0	16.0	30.

Errata.—A compositor's error occurred in the last sentence of Dr. Montgomery's article on Dysentery, in No. 6, 1867, perverting the author's meaning. We beg the reader to substitute *mercurials* for "minerals," in the last line but one.

We also beg the reader to correct the absurd error on page 63, 3d line, of this number; for "guest" read "fact."

St. Louis Summer School of Medicine.—We call the attention of students and preceptors to the announcement of this institution, which will be found in our advertising columns. The lecturers, who in the past year have inaugurated systematic summer instruction on special branches of interest and importance to the student, have permanently associated under the above name, and will commence their second course on March 16th, 1868.

Prof. C. A. Pope.—For the information of his many friends, we are requested to state that Dr. Pope is at present residing in Paris, and will remain there for some length of time.

We are compelled to omit an acknowledgment of books and pamphlets received, for want of space.

MORTUARY STATISTICS.

Number of Deaths in the city of St. Louis, 1867.

DURING THE WEEK	MALES.	FEMALES.	Total.	STILL-BORN.	UNDER 5 YEARS.	CHOLERA MORBUS.	CHOLERA.
Ending Nov. 8th.	75	48	**123**	4	50	1	5
" " 15th.	75	46	**121**	7	58	1	3
" " 22d.	62	50	**112**	11	44	1	6
" " 29th.	60	54	**114**	6	49	2	6
" Dec. 6th.	70	39	**109**	4	46	1	3
" " 13th.	66	46	**112**	2	47		1
" " 20th.	58	42	**100**	12	46		
" " 27th.	56	36	**92**	10	44		1
" Jan. 3d.	47	39	**86**	9	47		

THE SAINT LOUIS

Medical and Surgical Journal.

MARCH 10, 1868.

Original Communications.

ST. LOUIS HOSPITAL REPORT, WARD NO. XI.

By JAMES W. CLEMENS, M.D., Attending Physician.

Ward No. xi of the St. Louis (Sisters') Hospital is devoted to the treatment of medical cases almost exclusively. It contains at present thirty-nine beds, and during the past year has been nearly always well filled with cases of disease, some of which have been very interesting. As will be seen by the appended yearly report, the number, for a single ward, is quite large, and the variety of disease presented is sufficient to keep up an unwearied interest in the mind of an attending physician. Hoping that it may prove advantageous, as well as interesting, to the readers of the Journal, it is proposed to offer from time to time a résumé of the cases as they occur, the peculiarities presented, the course of treatment adopted, and other points of interest, for publication. No regularity can be promised in the appearance of the reports, as their preparation will depend, for the most part, on the material furnished by the ward; and although this is often of an interesting character, yet as often nothing beyond the most common diseases are admitted.

The past year, with the exception of that portion during which cholera prevailed, has been comparatively a healthy one. In the latter part of spring and early summer this was particularly to be remarked, but as midsummer approached cases of malarial disease rapidly multiplied, until during July and August every available foot of space in the ward was occupied, and continued so during the greater part of September. These cases were for the most part mild in their type, and easily subdued by medicine, and as a rule the patients remained but a few days before feeling sufficiently well to be impatient to leave the hospital. There is nothing peculiar in the treatment of malarial diseases as adopted in the ward beyond what is used by every physician, except in the use of one medicine, and as its good results have now been thoroughly tested on a broad scale, the manner of using it will be detailed, so that others not so familiar with it may know when and how to use it, and how far it is to be relied on. Quinine, of course, is always employed, and, like the well tried veteran, rarely does it fail to do the work expected from it. Cases, however, now and then occur in which it fails, but more rarely, I believe, when used in conjunction with acetate of potash. This latter remedy has seemed to me to be of wonderful service, not in cutting short the disease, but, apparently, in rendering the system more susceptible to the peculiar influence of quinine, and in almost every case of malaria received in the ward it is ordered with confidence that it will fulfill the expectations now formed of it. Dr. GOLDING BIRD was the first to point out its efficacy as an eliminative, and from an experience of some years in its use, I can fully corroborate the opinion of that accomplished physician.

If used at all it should be in large doses, frequently repeated and largely diluted with water. In the ward it is usually given in half drachm doses, repeated every two hours, and diluted with five or six ounces of water. It may be given at any time, either during the pyrexial or apyrexial stage, and continued until the urine becomes not only free

but light colored. The only conditions to its successful employment necessary to be observed are, that there should be no diarrhœa or irritability of the bowels, and that the urine should be dark or brandy colored. With any diarrhœa or irritability of the bowels, the medicine given in the above dose will act as a purgative, instead of producing its special influence through the system before it finally passes away by the increased secretion of urine. It is useless to combine opiates with it, under such circumstances, with the view of checking the bowels, as in my experience the peculiar and beneficial influence of the acetate is prevented by any combination with opium, and in cases where there is diarrhœa or any tendency to it, it is best not to use it at all. It is also useless to give it where the urine is free and light colored, as under such circumstances the urine is simply rendered alkaline, without any perceptible effect being produced on the disease. Remembering these two conditions, then, the acetate may be given freely, and with confidence that, with rarely an exception, it will act well. In remittent it is scarcely less effective than in intermittent fever. In the ward it is the usual prescription, and always goes hand in hand with quinine. Often have I known cases with the fever running very high during the whole twenty-four hours, so continuous and uniform, indeed, that a remission could scarcely be said to exist; with this there would be violent headache, suffusion of the face and eyes, so as to make me dread giving quinine; but the potash mixture, with or without a mercurial cathartic as was indicated, would in a short time produce a positive remission, during which decided doses of quinine could be administered without fear, and in two or three days the patient would be ready to be discharged. I usually give quinine at any period of remittent fever, but I prefer to select a remission if I can, believing that its peculiar effects are more marked and permanent than at any other period. Given freely at this time, very many of the cases will need no other medicine, and recover without further attendance. The action of the

acetate results in the production of more or less positive remission,—the very point I usually aim for,—and in my hands has been very satisfactory.

Another condition in which I attach great value to the acetate, is in old cases of intermittents. Every one in a malarious district has met with cases of repeated attacks of chill and fever, for which quinine has been given time after time with only temporary benefit. Every seventh, fourteenth, or twenty-first day the old enemy returns, to be again subdued by its powerful adversary. This may continue for some time, until the patience of both practitioner and patient is well nigh exhausted. Arsenic, or other remedies, probably, have been used with no avail, or have been deemed inexpedient. Under these circumstances, the patient may have enlarged liver or spleen, or both; at all events the strength becomes reduced, appetite disappears, and the face begins to present that anæmic appearance following a continuance of malarial poison. In the majority of these cases which have fallen under my observation, the bowels have been constipated, and the urine scanty and brandy colored. In these cases the potash salt is ordered and continued several days in succession, accompanied or not with small doses of blue mass and a cathartic, as may be thought best. The urine soon becomes abundant and light colored, and the face clearer and brighter; quinine is then given in two grain doses for two or three days, with the effect usually of overcoming completely the oft returning enemy. Here, as in remittent fever cited above, the acetate seems to prepare the way for the more effectual influence of quinine on the system, an influence which has been lost probably through some imperfection in the metamorphic changes by which the system is kept at par.

As to the mode of action of acetate of potash, I can only say that it acts as an eliminative. As to the special manner of its action—as to answering the question, how does an eliminative act, we can give no answer. We do not know whether it is through the organic acid or the alkali that the

good results follow—doubtless much depends on the combination of both. That it acts through those metamorphic changes by which disease is produced and cured, I have no doubt; but until these changes are better understood than at present, we can only surmise. Free dilution with water is essential to this action of the acetate. Without it either no effect is apparent, or the bowels are moved and the kidneys scarcely acted on; with it the urine rapidly increases in quantity, becomes lighter in color, and, if the remedy is continued long enough, alkaline. Water itself is a powerful diuretic, and should be given freely in all fevers. Experiments have proved that water will increase the metamorphosis of the body—judging from increased elimination—and if the increase is accompanied by an increase of food, the general strength and vigor of the individual will also be increased; a more rapid waste in this case being followed by a greater power of assimilation. Under the use of the acetate largely diluted, in such a disease as malarial fever, the tissues seem to be washed. Metamorphic changes rapidly go on, and the offending matter, in some form unknown, is either destroyed, or thrown out of the body. Acetate of potash has had a variable reputation as a diuretic, and the reason is, doubtless, that it has been used indiscriminately, whereas it is only in special conditions that it will prove worthy of its ancient fame. Used in the manner and under the circumstances detailed above, it has rarely failed in my hands, and I can well believe it will prove as effectual in the hands of others. Another condition I must not forget to give: *Never* use it in typhoid fever, or in low grades of continued fever.

A case of *aortic aneurism* was received in April, but the second night after admission death took place from rupture. It was interesting, as well for the comparative rarity of the disease, as for the difficulty attending its diagnosis. The patient entered the hospital on account of hæmoptysis, which had been troubling him, occasionally, for two or three weeks. He had always enjoyed remarkably good health,

and was a strong, sturdy, vigorous man: three nights before admission he was attacked, without warning, by a violent hæmorrhage, the blood coming up without effort, and passing away by large mouthfuls. The violence of the bleeding soon abated, leaving a slight cough, the expectoration being either pure blood, or mingled with blood, and continuing until he was admitted. When first seen, he complained of this cough alone; but it was not frequent, and the expectoration was only slightly colored. The night after, when lying quietly in bed, he was seen to spring up suddenly and rush for the door of the ward, the blood gushing from his mouth and nose in large quantities; he made but a few steps before he fell: he was soon raised and carried to his bed, but died in a few moments suffocated. Interest attaches itself to this case particularly, from the absence of many of those signs which usually indicate aneurism, and also from the extent of the disease as shown by a post mortem examination. The presence of cough and bloody expectoration naturally pointed to the chest as the seat of lesion, and when first seen, this was carefully and thoroughly examined. There was diminished resonance over the greater part of the chest, anteriorly and superiorly, but the natural respiratory murmur could be distinguished, though it was faint. A few large mucus bubbles could be detected near the left median portion, but no other indication of disease in the lung tissue could be discovered. The general distribution of the diminished resonance, the absence of other and usual signs of tubercular deposit, the man's age, and his general good physique, contraindicated the presence of tubercle as the cause of the hæmorrhage. There was noticed, however, a peculiar heaving of the whole chest, independent of respiration, and synchronous with the action of the heart. The latter organ indicated nothing unusual in its action, except a stronger and more forcible impulse than in health; but the diffused dullness over the anterior portion of the chest prevented its size from being determined by percussion. The heaving of the chest was

peculiar and significant. There was no local bulging or pulsation, but the whole of the upper portion of the chest, from the clavicles to the fifth or sixth ribs, rose and fell with each beat of the heart. The veins of the face and neck were somewhat enlarged and full, but there was no difficulty of breathing, and had been none except during the hæmorrhage. There was no thrill, or murmur of any kind, to be detected in any portion of the chest, anteriorly or posteriorly. The heaving was unattended by any sound; the head of the listener simply rose and fell with each beat of the heart. The patient had suffered no pain, except in the back between the scapulæ, where it had existed with greater or less intensity for four or five years, and which had been treated as rheumatism. The diagnosis of thoracic aneurism was made at the time, more by exclusion than from positive evidence; a diagnosis which upon post mortem examination proved correct.

The aneurism was found to be an enormous one, beginning just below the arch of the aorta, and extending over the bodies of four vertebræ, and with a diameter of about eight inches. The walls of the sac were firmly adherent to the parietes of the chest, and to the left bronchial tube, while the interior presented well marked efforts of nature to limit and contract its extent, by a concentric and irregular thickening of the walls. The bodies of the vertebræ were much corroded, nearly one half being destroyed, and the sac firmly attached to the margins of the corrosion by the periosteum and other fibrous structures. At the point where the sac was in contact with the left bronchial tube, some clotted blood was found, which, on being removed, revealed an opening about as large as a small crow quill, leading into the tube: the bronchial surface showed an inflammatory areola an inch in diameter around the ulcerated opening. It was through this opening that the fatal hæmorrhage had taken place, as well as that which had occurred three days before, the opening fortunately closing then by a clot, per-

haps, which was sufficient to restrain the bleeding until further ulceration or softening of the clot removed the plug.

The last case which I shall notice was one of *abscess of the lung*, in a man aged about 30, of good physique, and who was discharged cured in three weeks All modern authorities agree in viewing abscess of the lung as a rare disease. That it does occur, is well attested, but I believe it is usually as a consequence of local gangrene. I doubt whether abscess ever follows a case of uncomplicated pneumonia, the whole course of that disease proving a different condition from ordinary inflammation. The patient in question had been at work cutting wood in the swamps of Mississippi, exposed to cold, damp, and an occasional wetting. Ten days before admission he had missed his footing, and been precipitated into the water, receiving a thorough wetting, but had continued his work for two or three hours, before going to his cabin in the swamp. That night he was attacked with a chill, followed by slight fever and cough. He remained in the woods for three days, receiving no attention, and no medicine beyond a dose of calomel. At this time, feeling freer from fever, he went on board a steamboat and came up to St. Louis, entering the hospital immediately on his arrival. When seen he had no fever, or so slight as to be unappreciable; pulse weak, but not frequent; no difficulty of breathing, and but slight cough. The expectoration was muco-purulent, and exhaled a slight fetor. He stated, that whilst on board the boat he had an attack of violent coughing, during which he expectorated a quantity of dark looking matter, having an exceedingly fetid and disagreeable odor, so disagreeable indeed that no one could go near him.

Physical examination revealed slight dullness at the base of the right lung, more marked posteriorly, a feeble but distinct respiratory murmur, intermingled with a faint gurgling, distant, as it were, but perceptible not only to myself but to others when pointed out. The case was most interesting in proving the accuracy with which physical

signs could be employed in following the changes which took place from time to time, and which indicated an abscess in process of healing. First the gurgling became larger and more distinct, and at the same time the patient had another fit of violent coughing, during which he expectorated a large amount of dark, grumous matter, exceedingly fetid, and which under the microscope showed lung tissue. After this the gurgling was very distinct for a few days, but as he had no further violent cough or expectoration of the gangrenous lung, the physical signs indicated a gradual contraction of the vomica; viz., day after day the gurgling became less until it was covered up by a large, dry, cavernous râle, which in turn became smaller and smaller in tone, until it disappeared, and, when the patient left the hospital, only a harsh respiratory murmur could be heard.

No active medication was used; the case doing well was left very much to nature, care being taken that the patient received a sufficient amount of nutriment. A little wine was ordered for a few days, and then discontinued. The only prescription used was given for the purpose of trying to correct the fetor when it was present, and to relieve the violence of the cough. It was composed as follows, and as it has been used in other cases of gangrene with apparent good results, it is given entire:

℞	Potassæ chloratis,	ʒ ij	
	Acidi muriatici,	ʒ ss	
	Morphiæ muriatis,	gr. i	
	Syrupi ipecacuanhæ,	ʒ vi	
	Aquæ, q. s. ft.	℥ vi	Miscc.

S.—A half ounce every three or four hours.

1420 O'Fallon Street, January 30, 1868.

ABSTRACT OF CASES TREATED IN WARD NO. XI, ST. LOUIS HOSPITAL, DURING THE YEAR 1867.

Classes of Disease.	Diseases.	Whole Number.	Recovered.	Deaths.	Improved.	Unimproved.	Under Treatment.	Ratio of Deaths in each class.
FEVERS.	Fever, Continued	6	3	2			1	1 death in 23.2 cases.
	" Congestive	4	2	2				
	" Intermittent	197	193				4	
	" Remittent	27	26	1				
	" Typhoid	20	13	6			1	
DISEASES OF RESPIRATORY SYSTEM.	Abcess of Lung	1	1					1 death in 4.3 cases.
	Asthma	1	1					
	Bronchitis Acute	10	6	2			2	
	" Chronic	10	8				2	
	Catarrh	2	2					
	Phthisis	17		5	4	6	2	
	Pneumo-Hydrothorax	1		1				
	Pneumonia	11	7	4				
	Pleuro-Pneumonia	1	1					
	Pleurisy, Chronic	1		1				
	Laryngitis, Chronic	1					1	
	Abcess of Liver	1		1				
	Ascites	1		1				
DISEASES OF DIGESTIVE AND ABDOMINAL ORGANS.	Cholera Morbus	4	3	1				1 death in 3.2 cases.
	" Asiatic	18	3	15				
	Constipation	7	5				2	
	Diarrhœa, Acute	25	19	6				
	" Chronic	12	7	4			1	
	Dysentery, of Acute	10	4	4			2	
	" Chronic	8	4	3			1	
	Dyspepsia	6	4				2	
	Enteritis	1	1					
	Gastritis	7	5				2	
	Gastralgia	3	2				1	
	Hypertrophy of Liver	1	1					
	" Spleen.	1				1		
	Intussusception	1		1				
	Jaundice	4	4					
	Ptyalism	3	3					
	Tonsilitis	1	1					
	Trismus, (Rheum.?)	1	1					
DISEASES OF CIRCULATORY SYSTEM.	Aneurism of Aorta	1		1				1 death in 1.25 cases.
	" Art. Innom.	1				1		
	Disease Mitral Valve	2		2				
	Endo-Pericarditis	1		1				
	Apoplexy	1		1				
	Delirium Tremens	5	5					
DISEASES OF NERVOUS SYSTEM.	Epilepsy	3				2	1	1 death in 9 cases.
	Neuralgia	5	4				1	
	Paralysis	2				1	1	
	Softening of Brain	2		1		1		
DISEASES OF URINARY ORGANS.	Albuminuria	1		1				1 death in 17 cases.
	Bubo, non-Syphilitic	1	1					
	Gonorrhœa	4	4					
	Hydrocele	1	1					
	Retention of Urine	1	1					
	Stricture of Urethra	1	1					
	Syphilis	8	8					
DISEASES OF FIBROUS STRUCTURES.	Rheumatism, Acute	6	6					None in 13 cases.
	" Chronic	6	5				1	
	Synovitis, Chronic	1	1					
MISCELLANEOUS DISEASES.	Abcess	3	3					1 death in 11.25 cases.
	Diphtheria	1	1					
	Disease of Skin	3	3					
	General Debility	1		1				
	Hip Joint Disease	1				1		
	Ophthalmia	23	23					
	Indurat. Glands Neck	1				1		
	Erysipelas	4	4					
	Varicose Ulcer	3	3					
	Wounds	2	2					
	Unknown	3		3				
		523	406	71	4	14	28	Whole mortality, 1 in 7 36 cs's.

Fig. 9

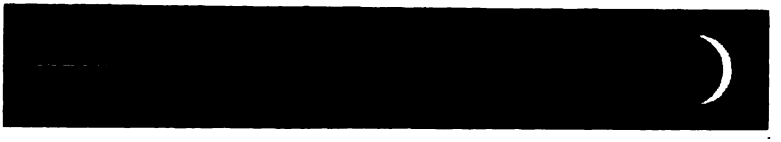

Fig. 10.

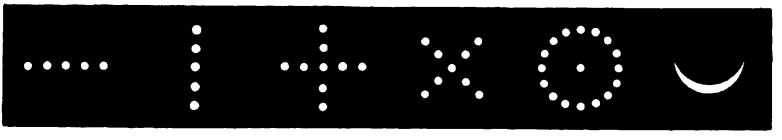

Fig. 11.

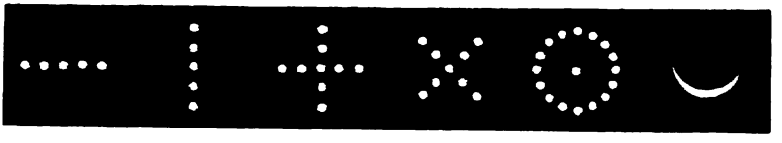

Fig. 12.

ILLUSTRATIONS OF ASTIGMATIC VISION.

Engraved after photographs taken with a camera rendered astigmatic by means of a cylindrical lens.

St. Louis Med. & Surg. Journ., Vol. V., Figs. 9–12.

Dr. John Green, Del.

ON AN OPTICAL DEMONSTRATION OF THE CHARACTERISTIC PHENOMENA OF ASTIGMATIC VISION BY THE CAMERA OBSCURA AND BY THE MAGIC LANTERN.

By JOHN GREEN, M.D., of St. Louis.

The writer has, for a year past, been in the habit of representing the peculiar visual phenomena dependent on regular astigmatism, by means of an ordinary photographic camera rendered astigmatic by placing a weak cylindric glass in front of the tube containing the lenses. The illustrations obtained in this way are very striking, and serve equally to show the operation of the different methods for correcting astigmatism, whether by the stenopæic spectacles of DONDERS or by means of cylindrical glasses. The camera may also be employed to photograph any appearances which it may be thought desirable to preserve. The plate accompanying this paper has been produced in this manner, Figures 9 and 11 representing the diagrams employed, as they are actually drawn; Figures 10 and 12 the photographic copies as modified by the astigmatism artificially produced by the camera. This method, beautiful as it is, has nevertheless the disadvantage that the images upon the screen of the camera can be seen by only one person, or at most two persons at a time, and thus great loss of time is incurred in class demonstrations.

Having had occasion at the recent meeting of the Missouri Medical Association, held in this city (December 11th, 1867), to demonstrate before a rather large audience some of the phenomena of astigmatic vision, it occurred to the writer to employ for the purpose the common magic lantern, rendered astigmatic by the addition of a cylindrical lens, like the camera in the former experiment. The combination used was a magic lantern with a condensing lens of four inches diameter, and a convex cylindric glass of ten inches focus mounted in a cap which could be fixed upon the end of the tube of the lantern and turned in any

desired direction. By turning this cap the direction of the meridian of greatest and least refraction could be varied at will, thus producing very striking and characteristic changes in the image thrown by the lantern upon the screen.

The test objects employed were combinations of black dots and lines cut out of paper and pasted upon glass like the ordinary slides of the magic lantern, and similar bright dots and lines made by punching slits and holes in a strip of card board. (Figures 9 and 11.) A third test was also used which is not given here on account of the difficulty of adequately engraving it; it consists simply of ordinary printed matter, such as a part of a page from a book. This test may be easily printed, in the ordinary way, with black ink upon a thin sheet of gelatine or of mica.

To display the different phenomena of normal and of astigmatic vision by this apparatus, one of the slides is placed in the lantern, and the focus accurately adjusted, so as to obtain the sharpest possible image upon the screen. The diagrams are thus shown as they appear to a person with normal vision. The cap containing the cylindric lens is then placed upon the tube of the lantern, with its axis of curvature turned in the direction of any one of the lines of the diagram on the slide. The effect of the convex cylindric glass is to increase the refracting power of the lenses of the lantern in this meridian by a quantity equal to its total refractive power, and in all other meridians, by regularly diminishing degrees, until its effect is reduced to zero in the meridian at a right angle to the first. The optical result, then, is that all lines on the slide (Figure 9) which correspond in direction with the axis of curvature of the cylindrical lens are projected out of focus upon the screen, and consequently appear of increased breadth and with indistinct outlines and diminished brilliancy of illumination. All lines, on the other hand, which are at a right angle to the first, are seen sharply defined, narrow and brilliant, but shaded at the ends, and therefore of ill-defined and uncertain length. Lines intermediate in direction appear more or

less indistinct according as they approach more nearly in direction to the former or latter meridian. (Figure 10.) If the diagrams made up of dots (Figure 11) are employed, the effect of the same disarrangement of the focus of the lantern which causes certain of the lines of Figure 10 to appear of increased breadth, is seen in the apparent elongation of the dots in the same direction, so that they appear as oval spots of somewhat ill-defined length. If now these oval spots happen to be so situated with reference to each other in the rows, that the long axis of the oval coincides in direction with the direction of the row, it must follow that the spots will appear to encroach upon the spaces, and thus the dots will seem to run together. In the row corresponding to the other principal meridian, on the other hand, the dots, being elongated in a direction at a right angle to the direction of the row, do not encroach at all upon the interspaces, but by contrast appear possibly even more distinct from each other than in the actual diagram. (Figure 12.)

One of the most striking tests of astigmatic vision is the crescent of the new or old moon. (Figures 9 and 10, 11 and 12.)

The test with printed letters is based on the fact that the "leads" or spaces which separate the lines are always much wider than the spaces between the letters. It follows that to an astigmatic eye the letters will appear more or less distinct and legible according as the direction of the axes of greatest and least refraction is such as to cause the letters to appear spread out vertically or horizontally. In the former case each word and letter, although appearing somewhat drawn out and shaded above and below, is still seen to be perfectly distinct from the other words and letters in the same line; in the latter case, on the other hand, the lines appear perfectly distinct, but the words and letters being spread out horizontally, may be so confused and blended together as to be altogether illegible.

616 Locust Street, February 17, 1868.

ON THE TREATMENT OF CHOLERA IN ST. LOUIS, MO., IN 1866 AND 1867.

By FRANK G. PORTER, M.D., of St. Louis.

The treatment of cholera has, for many years, been a subject of profound inquiry and careful study to the practitioner of medicine, both in this country and in Europe.

Almost every sanative agent known to the profession has had its advocates, or been experimented with, in the endeavor to control the fearful ravages of this terribly destructive disease.

Good men everywhere, in the profession and out of it, have labored, and are still laboring, to ascertain what remedies, what course of treatment, will produce the best results, and give the greatest amount of security in the management of this disease.

In fact, the civilized world has made common cause against it, and each and all are endeavoring to devise ways and means by which this insidious and baneful foe of the human race may be subdued, and a limit set to its onward march of death.

From considerations of this character, and a desire to contribute, if possible, something towards alleviating the suffering, and protecting the lives of my fellow men, I have been induced to lay before the readers of the Journal, a brief sketch of the plan I followed in the treatment of cholera in this city in the years 1866 and '67, together with a concise statement of the general results arising therefrom.

In doing this, I shall not attempt to discuss the nature of cholera—what it is, or the causes which produce it; but will simply say that the theory I have acted on is, that cholera is eminently a disease of *exhaustion*, rapid and fearful in its results, and that in the treatment of it there are but two general indications to be fulfilled; viz., *to oppose the morbid tendencies of the disease*, and to *support the patient*.

Believing that this proposition can not be successfully controverted, I remark that the first step requisite in the treatment of a case of cholera is to place the patient on his back, and enjoin *absolute rest* in that position until the violence of the symptoms has materially abated.

Strong sinapisms should at once be applied over the stomach and bowels, and these should be repeated as often as occasion requires. If the tendency to collapse is decided, the extremities should be thoroughly rubbed with a paste made of equal parts of mustard and capsicum mixed with vinegar, and then swathed in flannels wrung out of hot water. This course should be persisted in as long as there remains the slightest hope of reaction.

Each evacuation from the bowels, whether of the nature of painless diarrhœa or the characteristic "rice water," should be immediately followed by an enema of starch water and laudanum in the proportion of from a half to a teaspoonful of laudanum to a tablespoonful of starch water; inject slowly, and use every effort to cause it to be retained.

As soon as the patient is placed in position on the bed, from five to ten drops of the saturated tincture of camphor, thoroughly rubbed up with a few grains of pure sugar, should be administered every ten or fifteen minutes until the vomiting and nausea are arrested.

In the mean time, however, if the irritable condition of the stomach will at all bear it, the following prescriptions should be ordered, and may be administered at greater or less intervals until recovery ceases to be involved in doubt:

℞ Hydrargyri chloridi mitis, gr. i
Sacchari lactis, gr. vi Misce.
Divide in chartulas No. xii.
S.—One every 15 minutes dry upon the tongue.

℞ Tincturæ opii, ℥ij
" camphoræ,
" rhei, ana ℥i
" zingiberis,
" cardamomi, ana ℥iss
" capsici, ℥i
Olei cajuputi, ℥ii Misce.
S.—From a half to a teaspoonful every half hour.

If there is spasm, relief may generally be obtained by a few doses of the following:

℞ Chloroformi,
Acaciæ misturæ, ana ℥ ss
Sacchari albi, ℥ i Misce.

S.—A teaspoonful every 10 minutes.

The patient should in no case be allowed to drink water, or indeed any fluid. The terrible thirst may be measurably appeased by holding bits of ice in the mouth, and by occasionally applying a bladder containing crushed ice over the stomach. As soon as the discharges from the bowels are sufficiently controlled to admit of it, injections of the essence of meat with pure brandy should be thrown up the rectum every three or four hours. For this purpose a tablespoonful of the essence of meat mixed with a teaspoonful of brandy is sufficient for an injection. I know of nothing that so readily and promptly restores vitality in such cases, and so certainly secures the patient against death from exhaustion, or against an attack of that frequent sequel of cholera, typhoid fever, as the administration of the essence of meat with brandy in the manner indicated. These injections should constitute the patient's only food until the stomach has gained sufficient strength to perform its functions properly.

This, then, is the method I have pursued, and these are the remedies I have used. Now, what are the results. In 1866 I treated 113 cases of cholera: 6 of these died, and 107 recovered. In 1867 I treated 26 cases: 1 died and 25 recovered; making a total, in the two seasons, of 139 cases treated, with 7 deaths and 132 recoveries, a fraction over 5 per cent. of deaths. These cases were made up of all ages and conditions, and exemplified every phase of the disease, from painless diarrhœa to cold, clammy, shriveled, pulseless collapse.

517 Olive Street, February 12, 1868.

CASE OF ADHERENT PLACENTA WITH EXCESSIVE FLOODING, FOLLOWED BY METRITIS AND PYÆMIA.

Reported by EDWARD MONTGOMERY, M.D., of St. Louis.

In the latter part of October last I was sent for to attend Mrs. C. in confinement with her second child; I had attended her in her first *accouchment* about two years before, at which time she had a very severe and tedious labor, with great rigidity of the parts: the patient was a strong, muscular woman, and rather advanced in years. This time I found her very impatient and despondent, suffering very acutely with keen, lancinating pains, of short duration, but very frequent; the whole abdomen was very hard and tender, the skin hot and dry, and the pulse rapid. The os uteri was dilated to about the size of a dollar, the membranes slight protruding, and the presentation natural. As the patient was very stout and plethoric, I took about fifteen ounces of blood from her arm, and prescribed a mixture of extract of belladonna, tartrate of antimony, and sulphate of magnesia. Hot hop fomentations were applied over the abdomen. These measures seemed to have a happy effect; the tenderness and tension abated, the pains became less lancinating, the heat and dryness of the skin and also of the vagina moderated, and in about four hours my patient was delivered of a fine, large, healthy looking male child.

Immediately after the expulsion of the child a violent flooding occurred: I grasped the uterus through the abdominal walls, and had a large stream of cold water poured from a height over the exposed abdomen. I found the uterus very large, the placenta not yielding to moderate tension on the cord, and the hæmorrhage still profuse, and on introducing my hand into the uterine cavity, I found extensive adhesion of the placenta. I proceeded at once to peel it off as carefully and expeditiously as I could, and gave a large

dose of ergot. The flooding moderated at once, but my patient was as pale as a corpse, and passed from one fainting fit into another for several hours, notwithstanding the frequent administration of laudanum and brandy, beef tea, milk punch, &c.

About eight hours after the birth of the child she was seized with a severe rigor. I was at once sent for, and on arriving found her extremely restless, haggard, and despondent, with great thirst, a small, rapid pulse and a continuous flow of bloody and serous fluid from the vagina. She complained of a deep seated pain or soreness in the region of the womb, but there was no tenderness on pressing upon the abdomen; she also suffered from severe pain in the back, so that she could not remain in one posture five minutes at a time. I ordered an enema of laudanum and beef tea, to be repeated whenever there was great jactitation or restlessness from the pain, and prescribed also a mixture containing bisulphite of soda and spirits of nitre, to be used as long as the hot febrile stage lasted. As soon as the sweating stage set in I omitted this mixture and gave pills containing extract of cannabis indica, sulphate of quinine, and citrate of iron, alternating these with the antiseptic febrifuge for six days. After that I continued the quinine and iron, with nutritious aliment, frequently injecting the vagina, and for the first three days the uterus itself, with weak solutions of chlorinated soda, permanganate of potash, etc. During all this time my patient seemed in a very hopeless condition, had severe rigors twice in twenty-four hours, with profuse sweats, intense thirst, sleeplessness, delirium, great jactitation, small, rapid, feeble pulse, and cadaveric appearance generally. From the fifth to the eleventh day of her illness there was also diarrhœa, tympanites, and dysuria: to relieve these turpentine was administered internally and also applied externally over the abdomen; afterwards gallic acid was given, followed by aromatic sulphuric acid in conjunction with iron and with quinine.

Notwithstanding the frequent use of disinfectant injections the discharges *per vaginam* were very offensive; about the twelfth day abcesses were observed near the hip, knee, and ankle joints, which, when opened, gave issue to purulent matter of a most intensely sickening and fœtid odor. From the fifteenth day the patient began to manifest signs of improvement; the delirium gave place to quiet sleep, the profuse cold sweats abated, and in a month after her accouchment she was considered out of danger.

This case was one of extreme gravity, and seemed certainly most unpromising from the very commencement: the great tension and tenderness of the abdomen, the intolerable lancinating labor pains, the quick pulse, the hot and dry skin, and the great anxiety and restlessness even in the first hours of labor; the immense loss of blood at this time, followed by the long continued putrid discharge, the hectic and toxæmic fever with its small, thready, rapid pulse, great prostration, insomnia and delirium, the diarrhœa, tympanites and dysuria, the long continued cadaveric appearance of the patient, and lastly, the putrid metastatic abscesses, presented an aggregate of complications sufficient to appall and discourage even the bravest.

It may be a question still *sub judice*, how far therapeutic measures contributed to the happy result of the case, how far the ergot helped to control the hemorrhage, and the sulphites exerted an antiseptic influence. As to the detergent action of the chlorinated soda and permanganate of potash there can be no question. Positive utility may doubtless be claimed also for the tonics, viz., iron and quinine, which were so freely employed, as also for the spirits of turpentine, and gallic and sulphuric acids, which were given for the tympanites and for the profuse sweats.

1316 Olive Street, January 1, 1868.

A CASE OF CONGENITAL MALFORMATION OF THE FEMALE URETHRA—CEPHALÆMATOMA.

Reported by H. BEAUCHAMP, M.D., of Hamilton, Ohio.

Mrs. J. S., primipara, was taken with labor-pains at 9 P. M., October 14th. The child was expelled at 7 1-4 A. M., of the 15th, with one turn of the cord around its neck, and presenting, at the time, no unusual feature. Weight, six pounds: sex, female.

During the afternoon of the 15th, a tumor appeared upon the left posterior side of the head, measuring five inches in length, by two and three-quarter inches in width, apparently filled with fluid. The bones of the cranium could be felt by displacing the fluid, and the pressure caused no inconvenience to the child; it was not affected during respiration, or by the action of the heart. The skin over the tumor was natural in appearance and free from ecchymosis. From these characters it was recognized as a true cephalæmatoma.

No change took place in the tumor until November 3d, when a slight diminution was noticed in its size; after that time it gradually decreased, until on the 14th no evidence of it remained beyond a slight roughness marking the original outline of the disease. No treatment was adopted further than to enjoin care that no irritation by pressure or from accidental causes should be permitted, for fear of exciting inflammation.

A few hours after the birth of the child my attention was called to the fact that she had not urinated. On examination I could detect no opening in the normal site of the meatus urinarius, and at once suspected an absence or malformation of the urethra. By the advice of Dr. I. S. MCNEELEY, it was decided to postpone any operation until the next morning, in the hope that possibly a passage might discover itself.

During the early part of the morning of the 16th, urine was voided. At my next visit I introduced an ear speculum into the vagina, and upon separating the blades of the

instrument, discovered the urine flowing from an opening in the anterior wall of the passage about three-fourths of an inch within the vulva: no obstruction existed in the vagina. No dribbling of urine has occurred, and up to this time, Dec. 14, no trouble has been experienced from the malformation.

February, 1868.

COHNHEIM'S RESEARCHES ON INFLAMMATION AND SUPPURATION.

Communicated in extract by G. BAUMGARTEN, M.D., of St. Louis.

A short notice of COHNHEIM's discoveries, as laid before the Medical Society of Berlin, has already been presented to the American public by several journals (*Medical News* and others). I propose to review at some length C.'s own essay on the subject, the elaborate paper published in *Virchow's Archiv*, in Sept., 1867—Vol. xl., Heft 1–2.

The importance to our views on the pathology of inflammation and the origin of pus of the discoveries by C.'s experiments can not be overrated. They substitute observed facts in the place of theories long and carefully hatched, and now quietly to be laid aside; they give us an absolute certainty in at least one detail of the histology of inflammation that is most refreshing; they clear up our theoretical views by giving them a firm basis; in short, they will "mark an era" in our pathology of inflammation. BILLROTH, in his first lectures on surgery at the Medical School of Vienna (in the chair of the late lamented Prof. SCHUH), referred to these investigations in about the following words (*Wien. Med. Presse*, Oct. 20, 1867): COHNHEIM has directly observed how, in those inflammatory processes which lead to suppuration, the white blood cells migrate from the intact capillary wall into the surrounding tissue, and thence upon the free surface of the abdominal cavity, (the experiments having been made on the perito-

neum of the frog). That pus cells are truly nothing else than white blood cells, is proved indisputably by the fact that C. ingeniously fed the white blood cells with granules of aniline blue, and afterwards found cells thus characterized in the pus. Since we have learned from STRICKER, that the red blood corpuscles can under certain conditions leave the intact walls of bloodvessels by diapedesis, C.'s striking experiment no longer surprises us. . . . The fact is certain. All the assertions of eminent men, first among whom we name VIRCHOW and HIS, concerning the formation of pus by division and multiplication of connective tissue cells are thereby overturned. . . . . *Without vessels, therefore,—without blood, no inflammation.*

These remarks of the eminent surgeon and histologist may serve the article I propose to communicate as a summary of contents, and as an introduction inviting the attention of the reader.—

If a thread be drawn transversely through the eyeball of an animal, within a short time a light, pale discoloration will appear in the cornea, gradually increasing to complete opacity; further on, the cornea assumes a milk white or grayish or yellowish white color, at the same time becoming thicker and softer. An entirely similar result follows if the cornea be painted with tinct. cantharidis, or cauterized in one place with nitrate of silver, or if a thread be passed through the cornea itself. In the two latter cases, the opacity will be greatest at the point of application. All this is well known, and has been properly understood by physicians as traumatic keratitis. No less generally accepted at this day (since the labors of HIS and STRUVE, the results of which have never been properly contested) has been the doctrine of the more subtle, microscopic process, according to which the stellate corneal corpuscles increase in size and develop, either by division of the nuclei and cell-substance or by endogenous production, young elements:—pus cells. However universally accepted this doctrine may be and

however simple the explanation, C.'s later researches compel him to ascribe to them only partial conclusions.

The first glance cast into the microscope indeed teaches us that the cloudiness of the inflamed cornea is due to the presence of pus corpuscles, and that the degree of opacity depends on the number of these elements; but a more accurate examination soon shows that these pus cells are not the only cellular elements. On the contrary, if the cornea be immediately transferred from the animal just killed upon the stage of the microscope, immersed in pure aqueous humor or artificial SCHULTZE's iodinized serum, the well known stellate corpuscles of the cornea are seen exactly in their regular distribution, and without any considerable deviation from that form and habit which they have in the normal transparent cornea. This is best seen in the case of a keratitis which is part of a traumatic pan-ophthalmitis engendered by drawing a thread through the eyeball. Examining such a cornea at a period when there is yet only a pale grayish haziness, we always first see under the microscope, by reason of their greater lustre, the pus cells. But very few of these are spherical, the very great majority, as long as the tissue is not yet dead, exhibit other forms. Many are spindle-shaped, many others club-shaped, still others with shorter or longer multiform processes,—in brief, all the manifold curious forms which living pus cells assume by virtue of their contractility. Sooner or later the stellate corpuscles also become visible, and are easily distinguished by their greater size, their paler lustre, and their characteristic processes. These are seen in their normal regular distribution in successive parallel layers, while the pus cells are irregularly dispersed among them, many singly, others united into smaller or greater densely crowded groups. But what is most characteristic is the fact, that the distribution of the pus cells does not remain the same. We see, on the contrary, the same phenomenon with which RECKLINGHAUSEN has made us familiar in his famous article on pus and connective tissue corpuscles (*Virch. Arch.*, xxxviii,

p. 157), in reference to the lymphoid elements of the normal cornea,—the corpuscles, by reason of their contractility, change their place,—they *migrate*. This power of locomotion, of migration, is so striking a criterion, as compared with the stellate corneal corpuscles which never change their location, that C. briefly designates the latter as the "fixed" corpuscles of the cornea.

[By a new method of staining the tissue with the chloride of gold, in a manner analogous to RECKLINGHAUSEN'S method of staining with nitrate of silver, and reducing by light, C. has succeeded in so coloring the cells of the cornea, both the migrating and the fixed, that their observation in the dead cornea is much facilitated, and the fixed corpuscles with their processes can be distinctly seen in their natural site, no matter how great the number of pus corpuscles. By this method, also, relations have been shown to exist in the cornea of the rabbit analogous to those in the cornea of the frog described thus far.]

To guard against any possible misinterpretation, C. expressly states that he is not of the opinion that the fixed corpuscles never can be affected by the inflammatory process. Such an opinion can not properly be held at all. In the course of a keratitis we see the cornea softening, forming an abscess, the abscess rupturing and discharging purulent masses and parts of tissue, leaving an ulcer; and who could doubt but that here the corneal corpuscles undergo more or less serious changes? But though such changes can not be denied, C. protests against ascribing to them a higher importance than is due them. For what is gained by their demonstration, for the history of a less advanced keratitis, at a period where the microscope shows countless pus cells among the still *unaltered* fixed corpuscles? These questions must be entirely separated. The possibly passive changes of the fixed corpuscles must be the subject of a special investigation, while C. devotes himself to the more pressing question of the *origin and derivation of the pus cells*.

The fixed corpuscles of the cornea having been excluded from this question, only two possibilities can come into consideration. Either the pus corpuscles are derived from the migrating lymphoid elements pre-existing in the cornea, or else they did not arise in the cornea at all, but from without —they had immigrated. Both are *a priori* conceivable, though the balance of argument seems to be against the first named mode. More weighty than all speculative considerations, however, are the results of a systematic series of experiments on the course of traumatic keratitis to be detailed in the following.

In instituting a course of experiments for the purpose of studying the inflammatory changes in the cornea after the application of an irritant *according to their sequence in time*, C. arrived at results not immaterially different from those of former authors. It was constantly observed that the *simple traumatic keratitis always begins at the border of the cornea and thence progresses towards the centre.* Everybody will regard this as natural in the case of a pan-ophthalmitis; but it is just as true of every other kind of keratitis, no matter where the trauma may have operated, and it will be expedient to study that keratitis which owed its origin to an irritation applied to the centre of the cornea, for the sake of its greater power of evidence.

If the centre of the cornea of a (winter) frog be touched with a stick of nitrate of silver, so deeply that the epithelium of this part is completely destroyed (the surplus being washed away with a solution of common salt), the white slough under the influence of the light will become brown, while the rest of the cornea at first remains perfectly transparent. After about 20–24 hours the slough is surrounded by a very narrow, pale, sallow ring; but at a wide distance from this, wholly separated from it by a broad seam of perfectly transparent, shining substance, along the upper border of the cornea, we observe a cloudy, pale grayish streak. Now while in farther course the appearance of the centre remains unchanged, this streak gradually increases in

Having arrived at this point of the investigation, it was apparent that it could be carried no farther in a non-vascular tissue like the cornea. The field of research was therefore transferred to a vascular tissue—the peritoneum of the frog. An essential adjuvant in these experiments was the use of curare, in very small doses, rendering the animals motionless for about 48 hours, a time which could be prolonged of course by renewed injection of very small doses. Such small doses of curare, it is well known, have no influence on the circulation, and previous experiments had shown that a keratitis in "curarized" animals ran identically the same course as in those not curarized. The most convenient means of exciting an inflammation in the peritoneum was found to be simple exposure of the mesentery to the air. Hyperæmia is rapidly developed, the vessels become more and more filled, the intestine shows a dense, uniform redness; after the lapse of a few hours the whole looks cloudy, as if breathed upon, so that the individual vessels become indistinct. After 15–18–24, even 36 hours, the mesentery and intestine are both covered with a soft, pale-grayish or yellowish-gray, thin and somewhat viscid layer, which can be removed like a fibrinous pseudomembrane, and, as the microscopic examination teaches, consists entirely of densely-crowded contractile pus cells and very few red blood corpuscles, all imbedded in an amorphous, very slightly granular material. The course and products of the inflammation, when excited by other means within the closed abdominal cavity, are exactly the same. No one will fail to perceive that the process just described coincides perfectly with the types of a peritonitis with fibrino-purulent exudation,—a peritonitis "as it stands in the book."

For the purpose of microscopic observation, the frog was placed upon a slide large enough to accommodate the whole animal; close to its left side a circular piece of thick glass was cemented upon the slide, to obtain an elevated support for the mesentery, and this piece surrounded with a (less high) ring of cork; a loop of intestine was then drawn

forth from the abdominal cavity (with necessary precautions) and pinned upon the rim of cork, so that the mesentery was evenly spread out upon the circular piece of glass. (The object remains moist without supplying water to it; the skin of the animal, however, is supplied with water by means of moist sponges.)

In the preparation thus arranged, the substance of the mesentery appears as a pale tissue, countless slightly undulated fibres giving it the unmistakable character of the fibrillary connective tissue. Among these fibres are a few elastic fibres and white and pale nerve fibres. Next to these, numerous nuclei catch our eye; a part of these are roundish and pretty large,—nuclei of the single layers of epithelium covering the mesentery; the others, more lustrous, narrower, but longer, and less regularly distributed, belong to the connective tissue itself, and some of them are surrounded with a little cell protoplasma with indistinct outlines. Besides these we meet only with a very few migrating lymphoid elements.

The attention of the observer is strongly attracted by the bloodvessels. A number of relatively large arteries pass from the root of the mesentery in radiating directions towards the intestine; before meeting which they form, by the giving off of lateral anastomosing branches, a system of arcades running parallel to the intestine, from which the latter is directly supplied with arteries. Returning, the blood is collected by a system of veins similarly placed. From the arterial arcades a few branches also turn back and are distributed in the mesentery as a capillary net of wide meshes, from which small veins are gathered, emptying at convenient points into the larger veins.

More important than all this is the condition of the circulation. In the mesentery rapidly spread out under the microscope, the arteries are always narrower than the veins; the latter are at least one-sixth, sometimes one-half wider than the former. The current in the arteries is characterized by four points; (1) its direction, (2) its great rapidity,

which renders it quite impossible to recognize a single corpuscle, (3) by that peculiar character denominated the "axial current;" the red column of blood does not completely fill the bore of the vessel, but between it and the inner outline of the vascular wall, a narrow, colorless seam is observed, in which very rarely a white corpuscle is seen to appear for a short time; (4) finally, the pulsation, which consists not so much in a dilatation of the vessel, but rather in a rythmical acceleration and retardation of the current. In the veins, the current holds an opposite direction; its rapidity is much less than in the arteries, and indistinct outlines of single corpuscles begin to be visible. Here also the current has an axial character, but the colorless seam is usually less wide, and it is especially characteristic that in veins colorless corpuscles appear in it regularly from time to time, slowly advance, perhaps even stand still for a while; observing a vein for 2 or 3 minutes, from 8 to 10 colorless corpuscles are sure to pass the field of vision. Deviating from both and in all respects irregular is the behavior of the capillaries. There are capillaries in the mesentery wide enough to allow a red and a colorless, or even two red corpuscles to pass abreast comfortably; others have room for one only. The direction of the current is not quite constant, sometimes arrested, sometimes reversed. The rapidity also is inconstant, but always slow enough to allow the individual corpuscles to be recognized. But it is decidedly worthy of remark, that the observer receives the indubitable impression that the colorless corpuscles are always pushed forward more slowly than the red. The narrow diameter of the vessels of course precludes the possibility of an axial current; both the red and the colorless corpuscles everywhere touch the wall. No trace of pulsation.

This condition of the circulation, which may be considered the physiological, is of short duration, for very soon a series of changes begins, the final product of which is the exudative layer above described. The various stages of these

changes are variable in time, but always succeed each other in a determinate order.

The first step is a *dilatation of the arteries*, which, without perceptible contraction, seems to begin immediately after the mesentery is laid bare, so that after ten or fifteen minutes it may be very decided. This dilatation is uniform throughout; only in very isolated cases we may find a small spot where an artery is suddenly contracted, with an equally limited piece, at the cardial aspect of the former, which is unusually dilated. The dilatation of the arteries is followed by that of the veins, but this is developed much more slowly, so that there is always a stage in the process, in which the veins are exceeded in size by the corresponding arteries. The final result, however, is such that the two sets of vessels regain their original proportion. The changes in the capillaries will be noticed farther on.

Simultaneous with this dilatation is a change in the rapidity of the current, at first of a vacillating character; while in some vessels the current is retarded, it continues at the original rate in others; or after it has been retarded for a time in one vessel, it may again receive new impulse, etc. Always, however, and without exception, as soon as the dilatation has lasted for one or two hours perhaps, a *diminution of the rapidity of the current* is developed. This is manifested at once, microscopically, by the facility with which the outlines of the individual corpuscles can now be recognized. The optical effect of the pulsation in the arteries also becomes much more evident. Moreover, the blood current has lost its axial character; the mass of the blood now fills the whole diameter of the vessels, the corpuscles everywhere touch the walls. It can not fail to be recognized, now, that the colorless corpuscles tend toward the vascular wall; at the moment of greatest retardation they seem to be arrested there until the next wave bears them onward. This is all that can be observed in the arteries.

In the veins, however, we meet with an exceedingly characteristic circumstance: the peripheral zone of the blood current, the *original plasma layer, is filled with countless colorless blood corpuscles.* Slowly, sometimes with a jerking movement, several white corpuscles enter the field and soon come to rest at some point of the vascular wall, either permanently or only for a short time, after which they are again carried a little piece farther. But gradually the number of cells accumulating in the peripheral layer becomes greater and greater, so that after a time the entire marginal zone of the vessel is filled with colorless corpuscles, forming a complete wall within which the red column of blood flows on with uniform rapidity.

Before this condition has lasted a long while, the observer's eye is arrested by a most unexpected event. Upon the external outline of the venous wall, several small, colorless, button-shaped elevations arise, just as if the vascular wall itself produced excrescences. These excrescences slowly and gradually enlarge, until a half-globe of about the size of a half white blood corpuscle seems to lie upon the exterior of the vessel; farther on, this becomes pear-shaped, with the pointed end attached to the wall of the vessel. Now fine processes and points begin to radiate from the circumference of the pear-shaped corpuscle, which assumes manifold variations of form; above all, the main body of the corpuscle moves more and more away from the vessel, the tapering end being gradually elongated to a long, fine pedicle, which finally dissolves its connection with the vascular wall; so that we now have before us a colorless, somewhat lustrous, contractile corpuscle with one long and a few short processes, which differs in no respect from a colorless blood corpuscle.

Not a little self-control is required on the part of the observer to confine his attention to this one point. For during the time which passes between the first protuberance and the liberation of the corpuscles, — sometimes more than two hours, — a large number of other colorless corpuscles are

pushing forth at other points of the vascular wall, so that all stages of the process just described on one corpuscle may be seen at one time on the same vein by casting a look over the field of vision. Gradually the number of corpuscles appearing outside becomes larger and larger, and three or four hours after the first protuberance arose on the outside of the vein, the latter is surrounded by a simple but dense ring of such corpuscles. And in a few hours more it is no longer a simple layer of corpuscles that envelops the vessel, but a swarm of them extending upon all sides,—four, six, or more rows of irregularly but densely crowded corpuscles succeed each other, those of the inner row still attached to the vessel by their pedicles, while those of the outer row shorten their pedicles, and finally present the ordinary changing configurations of contractile blood or pus corpuscles. The time in which all this is accomplished varies not alone in different animals, but in different vessels of the same mesentery; in some it is only 3 or 4 hours, in others it may take 12, even 15 hours. While the corpuscles are leaving the vessels (which takes place in all veins, from the smallest up to the main trunks), the interior of the vessels is maintained in the above described condition: as before, the peripheral zone is occupied by a single uninterrupted layer of white blood corpuscles, within which the red stream continues to flow. C. expressly adds, that among the corpuscles which appeared at the outside of the veins there was not a single red one.

The above description, thinks the author, however incompletely it may portray the wonderful phenomenon, will yet have convinced every unbiased mind, that we have to deal with *a penetration of colorless blood corpuscles from the interior of a vein through the intact vascular wall outwards.* That the corpuscles collecting on the outside are identical with the colorless elements of the blood is indubitable; and no other than the definition just given is capable of explaining all the details of the process. Finally there can be nothing more convincing than the study of the matter

in animals, part of whose white blood corpuscles have been impregnated with pigment granules by the described method; repeatedly C. has seen a corpuscle containing aniline blue first rest against the wall of the vessel, then the exterior outline of the vessel rise in a protuberance which gradually grew larger and soon showed a few blue granules, and finally a contractile colorless corpuscle filled with the latter lying outside attached to the wall of the vein by a long process, while the corresponding place in the interior was now occupied by a white blood cell without coloring granules. Though the last and incontestable proof — i. e., seeing the same corpuscle half within and half without the vessel — is impossible in the veins on account of the relative thickness of their walls, it can be demonstrated with certainty in the capillaries.

At the same time that the arteries and veins dilate, the capillaries also become much more distinct than they had been; measurements do not prove much actual dilatation in them, and it is beyond doubt that the semblance of dilatation is owing to a greater and denser repletion of the capillaries with blood corpuscles. The current in them shows the same variations in direction, rapidity, and uniformity, as under the normal conditions. In some capillaries the corpuscles move very regularly, both the red and the white, the latter only more slowly, so that one may now and then halt and again move on in retarded steps. In others, on the contrary, the movement of the blood corpuscles gradually becomes slower and may even cease, so that the capillary is gorged with red and white corpuscles, the latter usually occupying the peripheral layer. This stasis may last for hours, until solved by a more or less sudden impulse. Finally there is a mean between these two extremes: in some especially wide capillaries there may be seen a stagnating and a moving layer, either the latter central and the former peripheric, or each occupying one half of the diameter of the vessel. But the stagnating layer does not by any means, like that of the veins, consist of colorless elements exclu-

sively, but red corpuscles also lie unmoved among them close to the wall.

The farther processes are correspondingly variable. In those capillaries in which the blood current continues with uniform rapidity, no change ensues. But wherever a partial or complete stasis is established, new events shortly begin to occur. The first we observe are more or less rapid and extensive changes of form in the (hitherto spherical) colorless elements, always partaking of the well known character of the "amœboid movements." * Then it is not long before some point of the capillary wall opposite a white corpuscle shows a globular protuberance or even a spinous excrescence, which gradually enlarges, as in the case of the veins, is finally transmuted into a colorless corpuscle attached to the capillary only by means of a long-drawn pedicle, and in course of time separates from it. During this often very slow process, it is not rare to see what removes the very last doubt as to its meaning, namely, a corpuscle lying partly within and partly without the capillary wall.

But in the capillaries not only colorless elements leave the interior of the vessel, but *red corpuscles also* penetrate the walls. Not a few of the roundish bodies appearing outside of the capillary outline manifest themselves by the characteristic yellow or yellowish green color of the hæmoglobine as red blood corpuscles. These bodies differ in size, some being no larger than the nucleus of a red corpuscle, some of the size of half a corpuscle, the smaller being globular, the larger appearing as curved discs. There is not the least doubt but that they are really parts of red blood corpuscles; for quite usually we see at the corresponding point the rest of the corpuscle—mostly that portion which contains the nucleus—lying within the capillary and connected with the outside portion by a narrow neck enclosed by the capillary

* The changes of form of the white corpuscles of the blood, of the lymph, of pus, by which they accomplish their locomotion.

wall. And in this unlucky situation the corpuscles may remain for hours, or, if the stasis in the meantime be interrupted by a new impulse, the current may tear the narrow neck and sweep the inside portion away. Yet sometimes, also, a corpuscle succeeds in passing the capillary wall whole and uninjured. Thus, then from twelve to twenty-four hours after exposing the mesentery we find a large number of capillaries surrounded by dense rings of corporeal elements, the majority of which are colorless, contractile cells, the minority red corpuscles, either entire, uninjured, nucleated discs, or smaller, round or elliptical, non-nucleated formations, undoubtedly the remnants of maimed blood-corpuscles.

I can not venture, without lengthening this article beyond the space at my disposal, to follow the author in his hypothetical discussion of various questions involved: why the colorless corpuscles of the blood so constantly accumulate in the marginal zone of the veins; in what manner—upon what road and impelled by what force—they leave the vessels, etc. But I will not fail to advert to the note on p. 57, in which C. refers to the oft reiterated assertion of ZIMMERMANN (1852), that all cellular elements found in inflammatory exudations and infiltrations are originally colorless blood-corpuscles, and in which he quotes the following passage from ADDISON, *Consumption and Scrofula*, (London, 1849), viz.:

"During inflammation—using the word in the general sense here indicated—there is more or less marked increase of colorless elements and protoplasma in the parts affected. At first—*in the first stage*—these elements adhere but slightly along the inner margin or boundary of nutrient vessels, and are therefore still within the influence of the circulating current; belonging, as it were, at this period, as much, or rather more to the blood, than to the fixed solid. Secondly—*in the second stage*—they are more firmly fixed in the walls of the vessels, and therefore now without the influence of the circulating current. Thirdly—*in the third stage*—new elements appear at the outer border of the vessels, where they add to the texture, form a new product, or are liberated as an excretion."

After two decennia have enriched our knowledge by a wealth of important facts—adds COHNHEIM—it is of course

not difficult to refute the (partly somewhat strange) explanations and conclusions the author adds to his experiences, but we will not on that account hesitate to pay our full and undivided acknowledgement to his exact and faithful observation.

The farther changes in the exposed mesentery, which can be seen by direct observation, may be described in a few words. While the processes mentioned are taking their course in the vessels, the remaining tissue of the mesentery is in no wise altered. The connective-tissue substance is just as transparent as before, the nuclei both of the epithelium and of the connective tissue are visible with the same distinctness, unless concealed by the exuded blood-corpuscles. Soon, indeed, there are but few places not thus obstructed; for gradually the emigrated corpuscles, which first lay in the immediate vicinity of the vessels, travel away from their vessels, their places being occupied by new comers; and after a few hours more every spot in the mesentery is more or less abundantly filled with white blood corpuscles; the neighborhood of isolated arteries, and of those capillaries in which an uninterrupted current of blood is maintained, is longest kept free from the intruders, but finally these parts also are invaded. In the mean time, the exuded *red* corpuscles quietly remain in close apposition to the capillaries.

At this point of the observation, C. also succeeded in demonstrating that a part of the colorless contractile cells are moving along upon the surface of the mesentery. By staining the epithelium by means of RECKLINGHAUSEN'S silver method, it is readily seen, that some of the colorless cells are below the upper epithelium — i. e., in the substance of the mesentery —, and others above it. In observing some of the largest veins, which are so thick that the epithelium is situated immediately below and above them, and which consequently occupy the entire thickness of the mesentery, it becomes evident that all the corpuscles making their exit at the side of the vein move along under

the epithelium; by adjusting the focus for the upper surface of the vein, however, cells are seen to arise out of the vessels, which presently lie above the level of the epithelium, and, as soon as they are detached, creep or swim along upon its free surface; while still attached by long pedicles, these cells are often seen to perform small swinging, pendulum-like movements. Thus some cells are carried directly to the surface; but of those which originally entered the tissue of the mesentery, very many—nay, even the great majority — in course of time also reach the surface. — Thus another question which for several years has occupied histologists has found its solution — the question as to the part the epithelium takes in the inflammation of serous membranes. The present investigation has demonstrated, that the epithelium has nothing to do with the production of cells, that it perishes, if at all, solely by being cast off.

We have thus followed the process of inflammation in all its stages from its incipiency to the point, where the mesentery is not alone filled with densely crowded contractile cells, but also covered on both sides by a more or less thick fibrinous layer filled with cells. (The animal usually does not survive an inflammation developed so far.) For in the meantime the transudation of plasma from the vessels had never ceased, nay, doubtless increased beyond the normal measure by reason of the increased pressure in the capillaries, and no one will wonder that the transuded plasma had been coagulated in contact with the air, and had thus furnished the amorphous material of the pseudomembrane in which the cells appeared imbedded. This might appear to some a reason for doubt whether the process described be really a type of a simple inflammatory process, or whether it be most essentially modified by the access of air. But it was easily shown, that every inflammation, from whatever cause, runs its course in the same way as when the mesentery is exposed to the air. C. excited a peritonitis within the abdominal cavity by touching with nitrate of silver, and the examination of the mesentery, spread out under the

microscope from time to time in the above manner (which can be done with extraordinary rapidity) most completely demonstrated that all those conditions were successively developed, which have been above described: *first the dilatation of the vessels, next the retardation of the blood current, the accumulation of colorless blood corpuscles in the marginal zone of the veins, and the stases, etc., in the capillaries, then also the emigration of white corpuscles from veins and capillaries, and of red from the latter; lastly, the dense infiltration of the mesenterial connective tissue with colorless, multi-nuclear cells, and the collection* en masse *of the latter upon the free surface of the mesentery in the peritoneal cavity.* Therefore we can not hesitate to consider all these phenomena as a simple inflammatory process. Nor would I hesitate to apply to the exuded cells the certainly more convenient name of "exudation" or "pus corpuscles," if such a special name were still needed after their identity with the colorless corpuscles of the blood, which has long been defended by VIRCHOW and others, has been conclusively proved.

C. did not fail to attempt, by analogous experiments, to verify the observations thus made on the mesentery of the frog in mammals also. Young rabbits and kittens were etherized for five or six hours, and the mesentery observed under the microscope in much the same way as was done in the case of frogs. Very soon the dilatation of vessels ensues, as well as the retardation of the blood current. Then the colorless blood corpuscles accumulate and are arrested in the marginal zone of the veins and also in the capillaries; and the author has repeatedly observed the emigration of corpuscles, exactly in the same manner as in the frog, commencing by a small protuberance of the external outline of the vessel, which grew larger and larger until complete corpuscles adhered to the vascular wall only by means of a long pedicle which finally loosened. All this passed under the observer's own eye; but the process could be carried no further in these animals, partly from the diffi-

culty of keeping the object from drying and maintaining it at an equable temperature, partly because the animals usually died after six or seven hours. In addition to the above, however, C. has seen the same pictures as have been sketched of the advanced stages of the process in the frog, in cases of spontaneous (epidemic) fibrino-purulent peritonitis and pleurisy in rabbits. For these reasons the author deems himself fully justified in applying his observations in the frog to mammals likewise. And it is unnecessary to point out expressly, that the laws disclosed in the mesentery are quite generally applicable to the inflammation of vascular organs. The special arrangement and distribution of the vessels, it is self-evident, will be of some influence in the individual case; for while in the mesentery,—rich in veins and relatively poor in capillaries, the vast majority of cells are furnished by the veins,—in organs better supplied with capillaries, as the serous coat of the intestine, the pleura, and especially the pulmonary tissue, the capillaries will have a larger share in the process;—a circumstance, which must manifest itself at once by the greater proportion of red blood corpuscles in the inflammatory infiltration or exudation, and C. reminds his readers of the rusty-colored exudation of a single lobar pneumonia. Nor is the value of these facts confined to vascular organs; they throw light also upon the events in the course of a keratitis, answering the question as to the origin of the pus corpuscles in the inflamed cornea.

Though the supreme importance of the subject tempts me to follow the author still farther in his generalisations, the already great length of the article compels me to bring it to a close. As regards the question, whether the described process of exudation, or better, *emigration*, is the only source of pus, to the exclusion of other possible modes of formation, the author leaves it in doubt, but is disposed to deny that the fixed corpuscles of the connective tissue have any share in producing pus corpuscles by division.

The experiments and observations communicated above, finally, remarks C., seem to make it necessary to modify the former theory of acute inflammation in some points; at least of that form of inflammation accompanied by suppuration (in the general sense, whether of cellular or purulent infiltration, of abscess, or of exudation) — that form with the celebrated four cardinal symptoms of which every physician first thinks when the word "inflammation" is spoken. Henceforth, the vessels will again occupy the foreground in this species of inflammation. Without vessels, no inflammation: the dilatation of the vessels, the injection and hyperæmia, is its necessary first stage; in vascular parts the vessels in them,—in non-vascular parts those of the neighborhood form the starting point of the inflammatory process. The second postulate for the development of an inflammation is the presence of spaces which allow of the locomotion and accumulation of colorless blood-cells; and as but very few bloodvessels border directly upon the larger cavities of the body, one tissue above all comes into consideration, which contains canalicular, dilatable spaces, and this is the *connective tissue*. Hence all suppuration remains intimately associated with all modifications of the connective tissue which contain the canaliculi described. Among the tissues of the connective substance but one is known in which such spaces are absent, viz.: cartilage. But in cartilage nobody has ever observed a true suppuration. All other connective tissues, as we know, are supplied with these canalicular spaces; they are the proper domain of suppuration; and this explains why suppurative processes in composite organs are always carried on in the interstitial tissue.

The author is far from proposing a new theory of inflammation; for a number of questions are still unsolved and awaiting experimental investigation. But there is a gain even in being able to put these questions with precision. Moreover, the facts developed by these experiments yield a few deductions and conclusions that will be welcome to the

physician and to the anatomist. They have confirmed on a secure basis the clinical experience of the initial hyperæmia. Further, they enable us to explain that an inflammation may terminate in resolution without any detriment to the integrity of the parts involved: the transuded plasma is morbid, and the immigrated corpuscles disperse into the vicinity and into the lymphatics, while the tissue remains unaltered, having sustained as yet no passive injury. They explain the beneficial effects of local and general blood-letting; and the influence of cold, which hinders the dilatation of the blood-vessels. Finally, the author refers to pneumonia, in the course of which such enormous numbers of pus corpuscles are accumulated in the alveoli, and yet neither the enclosing connective tissue, nor the epithelium of the alveoli show any sort of change sufficient to warrant us in supposing them the source of the pus corpuscles.

Reviews and Bibliographical Notices.

1. *DIE MENINGITIS CEREBRO-SPINALIS EPIDEMICA* vom historisch-geographischen und pathologisch-therapeutischen Standpunkte bearbeitet von Dr. AUGUST HIRSCH, o. ö. Professor der Medicin an der Universität zu Berlin. Berlin: A. Hirschwald. 1866. 8vo., pp. 189.

2. *EPIDEMIC MENINGITIS*, or Cerebro-Spinal Meningitis. By ALFRED STILLE, M.D., Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania; Physician to St. Joseph's Hospital and to the Philadelphia Hospital. Philadelphia: Lindsay & Blakiston. 1867. 8vo., pp. 178. Price, $2.00.*

Not very many years ago, the disease which the above treatises describe was a field of darkness and confusion, and its pathology the most uncertain thing in the world, though it boasts of a history dating back to the first years of this century. For we may assert that it is only within late years that the nature of the disease has been truly appreciated, and that we no longer read of it under the names of spotted fever and such like. "Nothing," says STILLE, "illustrates more clearly the value of morbid anatomy as an element of medical diagnosis than the inextricable confusion which involves nearly all of the descriptions of this disease which were written before the scalpel revealed the lesions which essentially belong to it."

Now, the scalpel *has* revealed it as a suppurative meningitis of the brain or spinal marrow, or both,—and here we have two classical works describing this dreaded epidemic disease, its nature, its symptoms and causes, and what little we know of the best way of treating it, in fresh, agreeable language,—forcible, perspicuous, and pointed;—two classical monographs, which will last us a small future as a summary of our knowledge on epidemic meningitis, and will never grow old.—Our predicates apply equally to both works, though certainly there are differences between them. The authors are both well known and of fair

*The parallel work of NIEMEYER, 1865, has been reviewed at length in Vol. III. of this Journal, 1866, p. 71, to which we refer the reader.

repute as medical writers. HIRSCH's treatise is the senior of the two by a year, and of about one-fourth more bulk, than the more recent work of STILLE. In the former, the history of the disease is more fully discussed, in accordance with the predilections and *forte* of the author, and the discussion of the causes of the disease and its pathogenesis is very elaborate, while in STILLE's treatise, therapeutics occupy a particularly large space. But there is one remark yet applying to both works before us with equal force, and one we are sorry to make, as it indicates that the subject is not yet *quite* ripe for being finally set aside:—both authors fill their pages with quotations,—which sometimes enliven the text, but more frequently obstruct the smooth reading of the book,—quotations that to us often appear unnecessary, irrelevant, and disturbing the harmony of the works. We had thought that Dr. STILLE was so completely and personally familiar with the disease, though perhaps not with every extreme variety that has been described in some epidemics, that he could have dispensed with that fullness of quotation which mars many of his pages by substituting his own experience as authority.

We will not follow the authors through the history, but enter at once upon the description of the disease. "No disease whatever," says STILLE, "wears such various masks of symptoms, behind which there is, nevertheless, a great uniformity of characteristic lesion. . . . The degree and extent of these lesions, and the greater or less energy in the primary impressions of the morbid cause of the disease are the two elements, out of which this great variety in its phenomena arises."

The general symptomatology is described by both authors as consisting essentially, "in the cases which may be called regular," of a short premonitory stage, in which prostration, chilliness, and pains in the head, back, and limbs, and often vomiting, indicating cerebral irritation, are the most prominent features, which "gradually assume a graver aspect, or usher in a heavy chill, which, in its turn, is followed by alarming symptoms, and especially by excruciating pain in the head, a livid or pale and sunken countenance, and extreme restlessness";—severe pains in the neck and spine, and more or less tetanic contractions of the muscles of the neck and back: tetanus and trismus. To these symptoms are usually added delirium and hallucinations, complete loss of appetite, and, when the attack tends to a fatal issue, coma.

In the analysis of the individual symptoms which follows this sketchy general description, there is a most surprising harmony between our authors, (and we may also include NIEMEYER). *Headache* is always present, except in those cases "where the death-blow falls with lightning speed," but according to STILLE is *not always* persistent throughout the attack. Of *vertigo* many authors make mention as among the earliest symptoms; and HIRSCH relates a characteristic case combined with maniacal delirium. Among the early and pretty constant symptoms are numbered great *prostration* and *debility*, which have been so prominent in some of the earlier epidemics as to suggest the name of "typhus syncopalis" or "sinking typhus." H. lays some stress on them as probably the chief cause of the tardy convalescence. *Delirium* is rare at the onset; but it usually comes on the second or third day, and is a prominent and pretty constant symptom; it is often maniacal. *Coma* is mentioned by STILLE only as occurring "in nearly all fatal cases, but rarely in a marked degree until the approach of death." HIRSCH, on the contrary, makes it an initial phenomenon in a certain class of cases—usually rapidly fatal—designated especially as *M. epid. comatosa* (TOURDES, FORGET, LINDSTROM);—in other cases it appears during a later stage, sometimes alternating with delirium, and is always an unfavorable symptom. STILLE tells us, as another circumstance peculiar to epidemic meningitis, that most of the patients on recovering had totally forgotten the commencement of their illness. *Hyperæsthesia of the skin*, extending over the entire surface of the body, and sometimes of such a degree that the slightest change in position or lightest touch of the hand gives rise to severe suffering, is according to H. a frequent symptom, "which, when it occurs, may be considered as characteristic of this disease" (STILLE). "*Pain in the spine and limbs* is a symptom of the same origin as the one just considered. and is even more characteristic because more uniformly present. HIRSCH asserts that this "rhachialgia" is so constantly met with, that the character of a pathognomonic symptom belongs to it. Still more characteristic of this disease, though not so universally present as the pain—(H. speaks of them as among the most constant and prominent phenomena)—are the *tetanic contractions* of the muscles of the neck, back, and limbs; they vary in degree from a simple stiffness of the neck to complete opisthotonos, often accompanied by trismus. They

are not an initial symptom, but occur "only after the disease has reached a certain degree of development." The duration of this symptom, as of all symptoms of epidemic meningitis, is very variable, sometimes lasting but a few days, in some cases several weeks, in fatal cases often ceasing only in death. H. regards *trismus* as, prognostically, a very ominous event. *Clonic convulsions* are of much rarer occurrence, than tonic spasms; and *paralysis* also is an infrequent symptom, but it does occur in some instances in a marked degree.

These are the more important symptoms: those furnished by the nervous system, or we may say by the anatomical lesions directly. We will be brief in considering the others. The organs of sense,—sight and hearing—suffer often and variously. The tongue presents no characteristic appearances; it is "generally moist, whitish in the centre and at the tip and edges. In a comparatively small number of cases it was dry, and more or less brown." Vomiting is "very constantly present among the initial symptoms", and authors seem to agree as to its character sympathetic of the cerebral disturbance. It often occurs without any previous nausea. The bowels are always constipated. The appetite, quite lost during the painful stage of the disease, generally returns as soon as the violence of the disease has abated. There is seldom any remarkable thirst. As regards the pulse, there is much discrepancy of statement, but all agree that it yields no safe diagnostic mark, and its frequency especially is very variable. STILLE says:

"Diminished force, and volume, and a tone so much impaired that slight causes produce extreme variations in its rate and rhythm, are... the characteristic qualities of the pulse in this disease, and those by which it is distinguished from the fevers to which it bears a superficial resemblance."

But "increased frequency of the pulse is *not* a prominent symptom," though in most cases the pulse is more frequent than in health. The temperature is just as variable. The most careful and exact observations of WUNDERLICH and ZIEMSSEN have only served to establish this irregularity of temperature, which HIRSCH regards as distinctive of the present disorder; the former observers also call attention to the incongruence of pulse and temperature. In general it may be said, that in the beginning of the attack the temperature is elevated very little or not at all, it rises about the second or third day to 100°—102° and maintains itself at this

height until the disease abates;—or else the temperature, especially in severer cases, makes considerable rises and falls in the shape of sudden jumps, and finally, towards the fatal end, suffers a very considerable increase (up to 105.8°—107.6° and more), as WUNDERLICH first pointed out. (HIRSCH.)

The skin frequently presents eruptions, to some of which the disease is indebted for unfortunate names; they are chiefly an eruption of herpetic vesicles, or of petechiæ, or of lenticular rose-colored spots. H. calls these eruptions very characteristic of epidemic meningitis, although not constant;—while STILLE expresses no opinion of his own about their semeiological value.—

These different symptoms, by their various combinations and intensity, cause the disease to assume such a multiplicity of forms that many authors have seen fit to classify the cases, with no advantage, it would seem to us, either to themselves or their readers. Neither STILLE nor HIRSCH follow out their classifications, but confine themselves to describing a few unusual (or irregular, *s. v. v.*) forms; the former only refers to the "abortive" and the "intermittent"; H. delineates pictures of the abortive form, of *M. cerebro-spinalis siderans* (the *méningite foudroyante* of the French), of the intermittent, and of the typhoid form.

The duration of the disease is well described in this sentence from STILLE:

"Let it suffice to quote the expressive phrase of TOURDES, 'the disease is distinguished by the slowness of its cure and the rapidity of its fatal issue;' and the conclusion of HIRSCH that 'its duration is between a few hours and several months.'"

Convalescence is always tardy and irregular. The mortality has been different in different epidemics, as might be expected, but always high, the death-rate varying between 75 per cent. and 20 per cent.

The anatomy of the disease is rendered by HIRSCH with a master's hand; STILLE's chapter on this subject is a little meagre and not very clear, owing to too frequent citation of the *ipsissima verba* of other authors, whereby the context is rendered incoherent and repetitions are introduced. The principal feature of the post mortem results is a cerebral meningitis with purulent exudation into the subarachnoid spaces, generally at the same time upon the convexity and base, and in the great majority of cases accompanied by a spinal meningitis, with a purulent fluid in the

subarachnoid space or a gelatinous purulent exudation infiltrated into the tissue of the pia mater,—as NIEMEYER described it. In cases of longer duration, the brain and spinal marrow usually are softened at points corresponding to the seat of meningeal inflammation; but these affections are evidently of secondary importance as contrasted with the affection of the meninges, which is very constantly found. "No other epidemic disease," says S.,

"presents more definite and characteristic lesions, *post mortem*, than cerebro-spinal meningitis. According to its type and its duration there never fail to be found some of those changes in the membranes or in the substance of the great nervous centres which denote the existence of inflammation. Congestion of the blood-vessels and exudation of serum, fibrin or pus beneath the meninges, and different degrees of alteration in the nervous pulp attest the nature of the process."

The causes of epidemic meningitis are obscure. It has occurred in all climates, but with preference in the winter and spring months; in respect of weather, unusual cold seems to be generally regarded as favoring the development of the disease.* It shows a remarkable preference for youth, so that in many epidemics the majority of patients are children, and it is rare for persons over 24 years old to be attacked. (A remarkable exception to this is recorded in the St. Petersburg epidemic of 1867, where the ten deaths observed by RUDNEW and BURZEW occurred in persons betwen 26 and 61 years, the average being 47 years.) Respecting the localities attacked, there have been many instances pointing to a limited space—a crowded barrack, a single regiment, an educational institution, etc., as the epidemic focus; but this is by no means universal: localities of every sort have been alike invaded by epidemic meningitis. HIRSCH therefore, while accusing "an atmosphere loaded with animal effluvia and products of decomposition" as an agency favoring the development of the disease, is far from finding the true source of the specific cause in hygienic errors. In the words of CHAUFFARD (1840), as then, "*l'étiologie de cette affection est restée enveloppée d'ombres impénétrables.*" (HIRSCH.)

But a specific *infecting* cause it is nevertheless necessary to suppose; all modern authors agree that epidemic meningitis is an infectious disease, and belongs to that class of infectious diseases

* The latest testimony in support of this view is given by RUDNEW and BURZEW in speaking of the epidemic in St. Petersburg during the spring of 1867. See *Virchow's Archiv, XLI.*, 73, 1867.

which are localized chiefly in a single organ. HIRSCH thus sums up the results of his reflections:

"Epidemic meningitis represents a thoroughly peculiar infectious disease, which in respect to pathogenesis is dependent to a certain degree upon the influence of the seasons and weather, upon certain classes of age and upon hygienic abuses; it owes its development to a specific noxious agency still unknown to us—a morbific poison, and under favoring circumstances perhaps spreads by way of contagion; judged from a symptomatological and anatomical standpoint, it bears on the one hand the outspoken character of a (purulent) inflammation of the pia mater of the brain and spinal marrow, and on the other hand presents a series of primary and secondary phenomena pointing to a constitutional affection; and its specific nature is expressed in the mode of its occurrence and its general distribution, which leads us to the assumption of an equally generally distributed specific cause of disease,—a morbific virus."

It will be seen, that H. is disposed to credit our disease with a little contagiousness; the arguments he advances, with all due respect to this most high and respected authority, seem to us a little weak. We must agree with STILLE, who very pointedly says:

"If... a new disease arises, and those who have observed it independently of one another agree in representing it to be communicable, or non-communicable, by the sick to the well, their judgment may be regarded as conclusive. In the present instance it may be affirmed that epidemic meningitis has been pronounced non-contagious by almost the unanimous verdict of competent judges."

The diagnosis of epidemic meningitis is based upon the sudden onset of the attack and rapid development of the symptoms of local disease, both of brain and spinal marrow: the acute pain in the head, neck and extremities, great debility, vomiting, tetanic stiffness of the neck and back, hyperæsthesia of the skin, delirium alternating with lucid intervals and with sopor, passing into complete coma towards the fatal end, etc., etc. These are features sufficiently characteristic for a positive diagnosis, while yet there may be cases, says HIRSCH, in which the diagnosis is one of the most difficult tasks of the physician. As to differential diagnosis, H. refers to (1) sporadic cerebro-spinal meningitis, in the existence of which he does not believe, (2) tubercular basilar meningitis, which usually admits of demonstrating the previous existence of a tuberculous or scrofulous affection, has a long premonitory stage and a slow course; delirium is wanting at first, and spinal symptoms do not occur until late in the disease; (3) typhoid fever,

with which he thinks epidemic meningitis can hardly be confounded, and (4) malarial fever, especially the so-called pernicious form. STILLE almost confines his differential diagnosis to typhoid and typhus fevers, entering at the same time into the proofs and arguments of the non-identity of either of these with meningitis.

The chapter on the treatment of the disease evidently is that which presents the most intricate and difficult questions to decide. To judge of the value of special methods of treatment in a disease with an average mortality of 30 or 40 percent is a very difficult problem.

The antiphlogistic method has been both recommended and condemned; the recommendations of the majority have always been for a limited and reserved use of antiphlogistic means. General bloodletting has been condemned, even in earlier days when the practice was in vogue and not "biased by the doctrines, or prejudices, whichever they may be, of the present day," as STILLE says. Local abstractions of blood by cups to the nape of the neck and leeches to the head have, with some, been in great favor, while others have seen no good effects from them. HIRSCH cautions against the use of copious local depletion in children, where it is apt to be followed by rapid and deep collapse. The use of cold to the head and neck is more universally recommended, especially in the earlier stage of the disease; cold affusions are also highly spoken of. Purgatives, especially drastic remedies, are absolutely condemned as injurious. Of blisters (which H. recommends) STILLE says that their utility in this disease is far from being universally evident, and:

"Were we to judge according to our own experience alone, we should assign to blisters, applied to the occiput and nuchæ, a very high place among the remedies for certain forms of this disease; for we know that they relieve or remove pain, diminish delirium, spasm and coma, and therefore contribute as directly as any other remedies, if not much more so, to the favorable issue of the attack. But to accomplish these salutary effects of their use, they must not be employed when the disease assumes a malignant type, nor in any case after its constitution has become definitely fixed."

Stimulants have been used in the earlier American epidemics, but most of the later authors make no mention of them even. STILLE regards "alcohol as a medicine which ought not to be included in the ordinary and systematic treatment of epidemic

meningitis, but as a cordial to be held in reserve against those signs of failure in the power of the nervous system, which call for its administration in diseases of whatever name."

Very general and very loud is the testimony in favor of opium *in large doses.* The greater number of European physicians, says S., prescribed it in doses quite too small to serve any good purpose. He was himself "in the habit of giving one grain of opium every hour, in very severe, and every two hours in moderately severe cases, and in no instance was produced either narcotism or even an approach to that condition." But smaller doses have also yielded favorable results. ZIEMSSEN, in cases of continued restlessness and moaning, gave 1-24–1-12 grain of morphine every hour or two and obtained "such excellent palliative effect, that it appears to us, next to cold, the most indispensable agent in the treatment of meningitis." In more urgent cases, he used the morphine hypodermically.—Quinia is utterly condemned, except in cases of complication by miasmatic poisoning, and as a tonic during convalescence.

On the alterative use of mercury in meningitis, the witnesses do not agree, and the diversity of opinion is great. HIRSCH denies that any beneficial effects are derived from a mercurial treatment. STILLE thinks that the use of mercury is justified in that group of cases whose general expression is sthenic, with comparatively strong pulse, warm skin, severe pains in the head, spine and limbs, and marked tetanic phenomena.—

We think we have fairly represented the contents of the two books whose titles are placed at the head of this review. Let us add, finally, that STILLE's book is, and will be for some time, the standard American authority on this interesting disease, and that we heartily recommend it to our readers.

G. B.

1. *A REPORT ON AMPUTATIONS AT THE HIP-JOINT IN MILITARY SURGERY.* By GEORGE A. OTIS, Assist. Surgeon and Bt. Lieut.-Col., U. S. A. (Surgeon General's Office, Circular No. 7.) Washington. 1867. 4to., pp. 87, with 9 plates.

2. A Contribution to the History of the *HIP-JOINT OPERATIONS PERFORMED DURING THE LATE CIVIL WAR.* By PAUL F. EVE, M.D., Professor of Surgery in the University of Nashville, Tenn. Ext. from Trans. Amer. Med. Assoc.) Philad., 1867. 8vo., pp. 17.

1. We were seldom more surprised at the exterior appearance of a book. Here are the finest paper and typography, and the very best illustrations by xylographs, lithographs, and chromos, such as a very large outlay only will procure. But an uncle as rich as Uncle Sam can afford to publish "regardless of expense." The question is, do the contents of the book correspond to the brilliant *extérieur?* Yes, and no. We answer *yes* respecting the report itself and the excellent wood-cuts, but *no* as regards the seven unnecessarily costly illustrations of healed stumps, of which five are chromo-lithographs of splendid workmanship—full-length portraits with much show of uniform, etc.

The report itself, the work of Brevet Lieutenant-Colonel George A. OTIS, Asst. Surgeon U. S. A., not only displays the student and scholar, but bears evidence of a thorough knowledge of the subject. The historical and statistical part shows the minutest research in literature, and in the collection of the reliable facts the most indefatigable diligence is everywhere visible. The pathologico-anatomical descriptions of the lesions treated of and fully illustrated by the finest wood-cuts render the report very valuable; and the practical deductions and conclusions drawn from the large number of amputations at the hip-joint made during the war, place Mr. OTIS among the sound thinkers in surgery.

We can not forego the pleasure of repeating in this place some statistical data, and the conclusions at which the learned author arrives.

From the first authenticated amputations at the hip-joint by KERR (1774) and LARRY sen. (1793), up to the beginning of the war of the rebellion, the author enumerates a list of 108 cases, which he classifies as *primary*, *i. e.* performed within the first 20 hours after the injury,—*intermediate*, *i. e.* during the inflammatory stage, say to within two or three months,—*secondary*, *i. e.*

at a period when the inflammation has subsided, and the lesions have become analogous to chronic disease,—and *re-amputations*, cases in which amputation had been previously performed. To this list are added the surprisingly great number of detailed cases of hip-joint amputations performed in our recent war—53, of which total number 16 recovered, and 3 are doubtful. Of these 53 operations, 34 were performed in the armies of the United States, and 19 in the rebel armies. In nineteen the operation was *primary;* eleven of them died within ten hours, three after two days, and two more after eight or ten days; only three recovered, "two so far that they were known to be in good condition, in one case two months, and in the other six months from the dates at which the operation was performed," and "one has survived the operation over four years, and is now in excellent health." The 18 cases included in the category of *intermediate* amputations resulted fatally. Of the 9 cases of *secondary* amputations, two recovered and seven died; and of the seven cases of *reamputation*, four recovered.

The conclusions the author draws, we prefer to repeat in his own words:

"1. We have learned that the PRIMARY operation for traumatic causes is not uniformly fatal, as has latterly been taught, and are enabled to define three conditions under which it should be undertaken, while two other conditions in which it may be justifiable are left *sub judice*." (p. 86.)

These three, respectively five, conditions are the following (p. 77):

(*a*.) "Few will deny that when the thigh is torn away by a large projectile so high up that amputation in the continuity is impracticable, it is incumbent upon the surgeon to regulate the wound by suitable incisions, and to disarticulate the head of the femur."

(*b*.) "In the next place it may be safely asserted that when the upper portion of the femur is very extensively comminuted by solid shot or fragments of shell, and the soft parts are greatly lacerated in such proximity to the trunk as to forbid amputation in the continuity, the limb should be at once removed at the hip."

(*c*.) "The third condition under which primary coxo-femoral amputation appears to be admissible in military surgery, is when, with fracture of the upper extremity of the femur, the femoral vessels are wounded."

The conditions *sub judice* are thus worded (pp. 77, 78):

(*d*.) "The observations of the late war afford but little data for the determination of the question propounded by M. LEGOUEST: whether, in

the event of simultaneous division of the femoral artery and vein near the crural arch without fracture of the femur, if the surgeon has had the good fortune to master the hæmorrhage, it would be better to immediately disarticulate at the hip, or to temporize and to await the invasion of gangrene?"

(*e.*) "Another question admitting of argument is: whether in those cases of fracture of the trochanters by conoidal musket balls accompanied by such extended longitudinal fissuring as precludes excision, the surgeon should not advise immediate ablation of the thigh? The experience acquired in the late war tends to determine this question affirmatively."

"2. Much evidence has been brought to controvert the prevailing doctrine that disarticulation at the hip is an exception to the general rule requiring all amputations deemed indispensable to be performed immediately, the eighteen *intermediate* amputations performed during the war having all resulted fatally." (p. 86.)

"3. We have proved that *secondary* amputations at the hip for necrosis of the whole of the femur or for chronic osteomyelitis following gunshot injury, may be performed with as successful results as hip-joint amputations for other pathological causes."

"4. It has been shown that when, after amputations in the continuity of the thigh, the stump has become diseased, *re-amputations* at the hip may be done with comparative safety." (p. 87.)

2. As of the 20 cases of hip-joint amputations given in Prof. EVE's pamphlet 19 are embodied in full in Dr. OTIS' report, we can refer the reader to the latter; but we will not omit to mention that in Dr. EVE's contribution is also contained a tabular statement of 13 *resections* at the hip-joint, from which he draws one conclusion well worth remembering: "*Resection doubly as favorable as amputation.*" F. E. B.

CATALOGUE OF THE UNITED STATES ARMY MEDICAL MUSEUM. Prepared under the direction of the Surgeon General, U. S. A.; embracing in one volume:

Catalogue of the Surgical Section of the U. S. A. Medical Museum. Prepared by ALFRED A. WOODHULL, Asst. Surgeon and Bvt. Major, U. S. A. Washington: Gov't. Printing Office. 1866. 4to., pp. 664.

Catalogue of the Medical Section. Prep. by Bvt. Lieut.-Col. J. J. WOODWARD, Asst. Surgeon U. S. A, in charge of Med. and Microscop. Section. Washington. 1867. 4to., pp. 136.

Catalogue of the Microscopical Section. Prep. by Bvt. Major EDWARD CURTIS, Asst. Surgeon U. S. A. Washington. 1867. 4to., pp. 161.

In that enormous work,—the U. S. Army Medical Museum—the medical corps of the late war have laid the foundation of an

enduring monument to their professional attainments and the ardor of scientific pursuit that pervaded them and caused them, when starved in military honors and pecuniary emoluments by a grateful and considerate Government, to coin their *own* rewards in scientific glory.

This catalogue is the key to all the treasures collected during the war, and it is a fitting key; that not alone sustains by its pompous, dignified, liberal *extérieur* the dignity of the institution, but that will never fail to unlock the secrets sought when properly applied. For we regard the plan of the catalogue as a masterpiece of classification: it is simple, but sufficient; it is logical, and yet by no means forced; it is regular, and in the different parts of the system pretty uniformly carried out; — so that in spite of its forbidding appearance this bulky index can be handled with the greatest ease. Thus, *e. g.*, it was a matter of no difficulty to us whatever to find out, concerning a certain specimen described by STROMEYER, whether the Museum contained any similar specimen or not. We do not know exactly whom of the gentlemen connected with the curatorship of the institution to consider as the architect of the catalogue, and are quite willing to give the credit to all three of them.—The small octavo catalogue published in 1863 was not arranged after any such plan, it was a mere enumeration.

The Surgical Section is divided into 30 general divisions, the first 20 based upon regional anatomy chiefly, the last 10 made up of miscellaneous headings, as: Tumors, Casts, Photographs and Drawings, Weapons and Projectiles, Materia Chirurgica, and finally Lower Animals. This list constitutes the table of contents of the Surgical Section. The next page gives a schedule of the classification of the first division, "Injuries and Diseases of the Cranium," primarily into four sections:

A. Gunshot Injuries of the Cranial Bones,
[with a list of Specimens illustrating Contre-coup after Gunshot.]

B. Injuries of the Cranial Bones not caused by Gunshot.

C. Injuries of the Soft Parts of the Cranium.

D. Diseases of the Cranium.

Each of these again have their sub-divisions. Thus the Gunshot Injuries comprise:

A. Contusions and partial Fractures.
- *a.* Primarily fatal.
- *b.* Operated upon by trephining.
- *c.* Secondarily fatal without an operation.
- *d.* Sequestra removed.
- *e.* Other cases.

B. Penetrating Fractures.
- *a.* Primarily fatal.
- *b.* Operated upon by the removal of fragments.
- *c.* Operated upon by trephining.
- *d.* Secondarily fatal without an operation.
- *e.* Other cases.

C. Perforations of the Cranium.
- *a.* Primarily fatal
- *b.* Operated upon.
- *c.* Secondary results without an operation.

The next page introduces to us the specimens themselves, which are supplied with a double set of numbers, one current number, and another belonging to the ultimate sub-division of the catalogue. A brief description, a short history, and the name of the contributor, are the items here communicated, with frequently a wood-cut representation of the specimen.

The catalogue of the Surgical Section concludes with a list of contributors (among whom we notice some St. Louis friends, Prof. HODGEN, and Assistant Surgeon E. J. MARSH, U. S. A., formerly residing among us, and others)—and an index of specimens according to running number of specimen and page of catalogue. According to this, there are no less than 4,719 specimens displayed in this section.

The "medical" specimens are far less in number, as is natural, numbering 877; a note informs us that they are chiefly wet preparations, preserved in alcohol, suspended from a glass hook on the stopper; the intestinal preparations—of which several most beautiful illustrations by photo-lithography are added to the text—are stretched upon frames of glass rods. They are classified in eight chapters according to anatomical systems, most of them subdivided according to organs, etc.

The Microscopical Section of the Museum contains a collection of 360 opaque injections by Prof. HYRTL of Vienna; the large majority of the specimens, however, have been prepared in the Museum. The catalogue enumerates 2,120 mounted preparations

for the microscope, and 149 photographic negatives of microscopic objects, taken at the Museum by Asst. Surgeon CURTIS. A note on pp. 131–134, with the aid of a plate and several wood-cuts, explains the method by which these photographs are obtained.

Finally, let us again express our high opinion of the worth of this catalogue, which is not alone valuable as a good index and finder of the specimens in the Museum, but has its uses also in the hands of those who have no access to the latter. The catalogue, by itself, has a scientific value, like an extensive case-book.

The mechanical execution of the large book, the splendid typography, the liberal allowance of paper, the artistic illustrations—are all decidedly pleasing, but also decidedly Uncle Sam-ish, *not* with an eye to economy. G. B.

THE PRACTICE OF MEDICINE AND SURGERY APPLIED TO THE DISEASES AND ACCIDENTS INCIDENT TO WOMEN. By WM. H. BYFORD, A.M., M.D., Professor of Obstetrics and Diseases of Women and Children in Chicago Medical College, etc Second edition, enlarged. Philadelphia: Lindsay & Blakiston. 1867. 8vo., pp. 616. Price, $5 00.

This is the second edition of this really meritorious book. It is a decided improvement on the first, both in regard to new matter and diction.

Many of the diseases here discussed are but imperfectly understood by the profession, because their magnitude and gravity are not fully comprehended. Medical men are therefore indebted to Prof. BYFORD for the clear, concise, and skillful manner in which he has arranged and elaborated his very valuable work.

Although we are unable at present to enter into a full discussion of its merits and demerits, yet we have no hesitancy in recommending its careful perusal to every student who may desire to obtain a thorough knowledge of this highly important branch of his profession. F. G. P.

STUDIES IN PATHOLOGY AND THERAPEUTICS. By S. H. DICKSON, M.D., LL.D., Professor in Jefferson Medical College, Philad., etc. New York: W. Wood & Co. 1867. 12mo., pp. 201. Price, $1 50.

This book consists of six essays, of which five were delivered by the professor to his class, and subsequently published in medical

periodicals. The essay on pneumonia is new, and appears here for the first time.

In this article, which we have read with much labor, Dr. DICKSON does not give us original investigations, but collects the observations of others, and endeavors to draw valuable results from combining and reasoning upon them, thus choosing a legitimate field for labor, which under some hands has yielded rich harvests. But our author seems to have been more diligent in collecting his data than in elaborating his conclusions or striving to express them clearly.

Perhaps the most prominent point in the essay is an attempt to prove that pneumonia is much more fatal than the teachings of medical writers would lead us to suppose: "Its victims abound everywhere, and everywhere it is habitually spoken of as among our most curable and least dangerous diseases." In support of the latter part of this quotation, he cites AITKEN, FLINT, J. H. BENNETT, and Prof. CALDWELL, the editor of *Cullen's Practice*. The first three of these gentlemen limit their statements on this point to *uncomplicated* pneumonia, and Dr. DICKSON seems to forget that he has already said (p. 113), "AITKEN affirms that one-eighth of the deaths in continental Europe are attributable to it."

The author then cites statistics from many varied sources to prove the large ratio of deaths in cases of pneumonia, and the large ratio of fatal cases of pneumonia in the bills of mortality.

Those who have worked with medical statistics will appreciate the difficulty of drawing legitimate scientific conclusions from the figures of observers of varying competency. With accurate observers, of scientific training, the multiplication of observations from different points of view tends to eliminate error, but when we increase our statistics from simply official sources, whether civil or military, it seems to us that we are about as likely to accumulate error as to eliminate it.

Commencing page 135, a long list is given of authorities reporting 80,437 cases of pneumonia, of which 16,915 were fatal. Added in with the 80,437 cases are four anonymous entries, amounting to a little over 4,000 cases. How these 4,000 cases were obtained, it is impossible to say; they certainly are presented in a very loose way. 59,976 cases, with 12,829 deaths occurred in the armies, Northern and Southern, in the United States,

showing a mortality of somewhat more than 1 in 5. The large number of these cases would alone make us suspect that they were not all cases of simple pneumonia. So good an observer as Sir THOMAS WATSON says, page 574 of his lectures, 3d Am. Ed.: "I have been surprised to find how few cases of pure idiopathic inflammation of the lungs present themselves among my hospital patients. Five or six in the year are as many as I see there. Intercurrent pneumonia, however, pneumonia engrafted upon some pre-existing disease, is abundantly frequent."

Now we scarcely think that Dr. DICKSON will maintain that pneumonia has not been held to be a dangerous complication.

It seems to us to go far towards proving that pneumonia has generally been considered a dangerous disease, that its treatment has been discussed with so much interest, and that such heroic measures for its cure by blood letting and tartrate of antimony have been tolerated and widely adopted.

Bearing upon this point the following passage is not without interest from the recent work of Dr. H. W. FULLER, of London, sustaining the later views and results of Professor J. H. BENNETT.

"In my own practice the mortality has not ranged so high as the statistics just quoted (*from Valleix, Grisolle, and others*) would have led one to anticipate; for although patients are admitted into the hospital of all ages, and in all stages of the complaint, I have lost only 4 out of 78 cases, and of these 4, one died the day after admission, and the other three were in an advanced stage of the disease before the treatment was commenced. Whether this favorable result is attributable to my supporting the patient and avoiding depressing treatment, it is difficult at present to decide; but inasmuch as the statistics from which the more unfavorable results are deduced relate to cases in which copious venesection and other actively depressing treatment were employed, it seems not improbable that such may be the case."

The rest of the essay is mainly taken up with a consideration of the different views of the pathology and treatment of the disease, but the result of all is inconclusive. The author has not overthrown the latest views of pneumonia, neither has he enforced any old truth or established any new one, while the difficulties of his style and his confused treatment of his subject weary and repel the reader.

The last sentence is as follows: "The prudence and skill of the physician, the care and good sense of the nurse, and the proper selection of the fit remedy, decide the patient's fate: Venesection and alcohol, tart. antimon. and quinia, opium, ipecac, calomel, veratrum viride, iron and copper—each of them may do good service, or may inflict serious injury."

It needs no professor to tell us that. C. E. B.

SYNOPSIS OF THE COURSE OF LECTURES IN MATERIA MEDICA AND PHARMACY, delivered in the University of Pennsylvania; with five lectures on the Modus Operandi of Medicines. By JOSEPH CARSON, M D Fourth edition, revised. Philadelphia: Henry C. Lea. 1867. 8vo, 272.

The character and scope of this book are sufficiently well described in the following extract from its prefatory notice.

"The motive which has influenced me in compiling the work from my manuscript notes, is the desire to give the pupils of the University a thorough knowledge of the important branch of medicine which it is my duty to teach. To the character of an independent treatise the work presents no claim; in fact, a large proportion of it requires the explanations given in the lecture room." C. E. B.

OBSERVATIONS ON THE NATURE AND TREATMENT OF POLYPUS OF THE EAR. By EDWARD H. CLARKE, M.D. Boston: Ticknor & Fields. 8vo., pp. 71.

This monograph, as is stated in the preface, "is not put forth as a complete account of polypus of the ear, but simply as a contribution to the study of it." Coming as it does from one of our most eminent physicians, and from one who has enjoyed in addition the advantage of an exceptionally large practice in aural surgery, we naturally expect and we find facts carefully observed, thoroughly studied, and clearly reported. These facts, moreover, are sufficiently numerous to admit of some general deductions of great practical utility. They show also that polypus of the ear is a comparatively rare disease, a fact which goes far to explain both the meagreness of statement and the marked discrepancies upon this subject which characterize the works of nearly all the sys-

tematic writers on the diseases of the ear;—the same fact explains and must also excuse similar deficiencies in the present monograph. While therefore we had formed expectations of the book which are not wholly realized in reading it, we have nevertheless every reason to feel grateful for the work that has been done, and especially that it has been done so well.

The first part of the book, comprising about two-thirds of the whole, is devoted to the record and analysis of cases, thirteen in number, of which the dates are not given, but which, as we learn from the preface, were observed and recorded several years ago. The remaining pages are of recent composition, and contain a digest of the conclusions drawn in the first part supplemented by the author's later but unrecorded experience.

The principal conclusions drawn by Prof. CLARKE from the cases which he has reported may be thus briefly summed up.

1st. That neither the sex, age, nor general health of the patients had much to do with the polypi in their ears, but rather that the growths sprung up in consequence of local causes, and grew because they found an appropriate soil.

2d. That a discharge from the ear was always one of the first symptoms, and sometimes the first and only warning of impending or existing evil. The inference drawn from this observation is that polypus is rather the result than the cause of the otorrhœa; hence the conclusion that every case of discharge from the ear should be examined and treated as soon as it appears, not left to itself in the hope that it may get well spontaneously.

3d. That polypi of the ear are of all possible shapes and sizes; some are pedunculated, and others attached by a broad surface; that they may grow from various parts of the external meatus, but more from the middle than from the inner or outer third of its length, seldom from the membrana tympani or from the cavity of the tympanum; that in structure they may be arranged in two groups or classes, according as they present a fibrous or a cellular character when examined by the microscope. These two varieties Prof. CLARKE designates by the names "fibrous" and "epithelial," and under one or the other of these heads he classes all the non-malignant growths of the meatus.

4th. That polypus of the ear is almost always preceded or accompanied by other serious disease of the meatus, and in more

than half the cases by perforation of the membrana tympani; therefore,—

5th. That although the effect of treatment is always in the end satisfactory as far as the effectual removal of the polypus is concerned, yet—

6th. The result of treatment on the hearing depends more upon the integrity of the membrana tympani and of the deeper parts of the ear than upon the successful removal of the polypus.

7th. That the treatment is by extraction and cauterization, the time required for a cure varying in the cases reported from a single day to four years, or an average of nearly six months.

The classification of polypi proposed by Prof. CLARKE has the merit of great simplicity, but practically, it appears to us that it does not materially differ from the well known arrangement proposed by Mr. TOYNBEE, and now very generally adopted by aural surgeons. Prof. CLARKE's "epithelial" and "fibrous" polypi seem to us to correspond in fact to the "raspberry cellular" and "fibro-gelatinous" growths of Mr. TOYNBEE, with only this difference, that while Mr. TOYNBEE's description is, like the former, founded chiefly upon considerations of minute structure, it takes cognizance also of other distinctions drawn from the study of external appearances and of concomitant symptoms. One form, however, which Mr. TOYNBEE has most carefully described, and which, he says, "differs *essentially* from those belonging to the preceding classes," viz., the "globular cellular" polypus, is not noticed in Prof. CLARKE's system. This seems to us an important omission, inasmuch as this form of polypus, as described by Mr. TOYNBEE, is peculiar from the fact that it does not require to be removed by operation or by caustics, but can be successfully treated by astringent solutions of moderate strength dropped into the ear. A truly scientific classification of aural polypi, as it appears to us, remains still to be achieved; by this we mean a classification based upon their homologies with growths from other portions of the cutaneous surface of the body, and it is from investigations conducted in this broader way, rather than from the exclusive study of the disease of any single region, that we look for the coming light.

The book is admirably printed on tinted paper in the best manner of the Cambridge press, and is illustrated by two exceedingly well executed plates representing the minute structure of

the growths described in the text: for the microscopical examinations and drawings, credit is given to the author's friends, Profs. JOHN BACON and CALVIN ELLIS of Boston, and JOHN C. DALTON of New York.

In conclusion we would say that the book fulfills the promise of the preface, and is a valuable contribution to the study of polypus of the ear. J. G.

TREATISE ON THE DISEASES OF THE EYE, including the Anatomy of the Organ. By CARL STELLWAG VON CARION, M.D., Professor of Ophthalmology in the Imperial Royal University of Vienna. Translated from the third German edition, and edited by CHARLES E. HACKLEY, M.D., and D. B. ST. JOHN ROOSA, M.D. New York: Wm. Wood & Co. 1868. Large 8vo., pp. 774. Price, $7 00.

This standard work, having attained its third German edition, now appears for the first time in an English version.

It was sent unfortunately too late to admit of its receiving an adequate review in the present number of the Journal, and we are unwilling to do injustice either to the author or to the faithful translators and editors by anything less than a careful perusal of the whole work. We must therefore reluctantly content ourselves with a simple endorsement of the book as the most complete and trustworthy compendium of ophthalmology that has been offered to American physicians since the appearance, many years ago, of the great, but now in many respects obsolete works of MACKENZIE and LAWRENCE. We hope to be able in our next number to give an extended analysis of its contents. J. G.

LECTURES ON THE DISEASES OF WOMEN. By CHARLES WEST, M.D, F.R.C.P.; Examiner in Midwifery at the University of London; etc., etc. Third American, from the third and revised English edition. Philad.: Henry C. Lea. 1867. 8vo., pp. 543. Price, $3 75.

The popularity of WEST's work on diseases of women relieves us from the necessity of recommending it at length, and will secure this new edition a warm reception. We believe this is the most popular of all the works upon the same branch, and, though the contestants for professional favor are numerous in this field, the one that, in the judgment of the majority, fills the highest place. Not alone is the instruction imparted in this volume

reliable in a high degree, for his writings attest the conscientious observation and truthful relation of the author, but all subjects are presented in language most agreeable to the reader: an easy, charming, perspicuous style, that makes it a pleasure to read, is one of those characteristics of the work which secure its elevated position among its rivals. The only recent work that bids fair to compete successfully for equal favor is that of GRAILY HEWITT. Yet there is an intrinsic difference in the two works which will allow them to stand peacefully side by side, partly from a wholly different method of treating their subjects, and partly from the standpoints of the authors being different. Dr. WEST may be called, at this day, an eminently conservative gynæcologist—that title even is hardly appropriate, for "*gynæcology*" is the word almost monopolized by the radicals,—whereas Dr. HEWITT may be said to strike the average and be extreme on neither side, yet inclining decidedly more to the younger school than Dr. WEST.

One essential change of this edition we must not permit to pass unnoticed: it is the change of opinion in regard to ovariotomy. In the first edition of his lectures, the author expressed the most unfavorable opinion on this operation and showed himself a strenuous opponent. The additional developments and experiences of the seven years which have passed over that edition have induced the author to alter his opinion, and we take the liberty to illustrate this change by quotation from the pages of the work. After repeating all his former reasons against the operation, Dr. WEST goes on:

"It is between six and seven years ago since I expressed these opinions. I have thought it right to reproduce them now, word for word, and to repeat the grounds on which they rested. I have done so because these opinions are still in the main those of the highest authorities in France and Germany, and it is only in this country and in America, that any important additional experience has been attained concerning the operation and its results.

"Even in England, most of the former opponents of ovariotomy retain the unfavorable opinion which they had already expressed, but I am not aware that anything whatever has been done, or even attempted by them to devise other and less hazardous proceedings for the cure of ovarian disease, or even for retarding its progress; and iodine injections, which seemed to promise so much, have been allowed to fall into disuse, almost without an attempt to ascertain their real value. Ovarian disease, then, remains, as far as curative measures are concerned, just where it was seven years ago; a deeper conviction of the utter fruitlessness alike of internal

remedies and of outward applications being all that the experience of these seven years has taught us.

"It becomes, then, of the more importance to inquire whether this gloomy picture admits of no alleviation; whether the hazardous operation of ovariotomy has lost none of its dangers; whether its attempt is attended by the same uncertainty as before; and whether recoveries from it are still limited to cases where its necessity was the least urgent?

"I am bound to admit that to all of these questions the reply must be much more favorable than it was seven years ago; that the persevering efforts of the advocates of the operation have led to a greater accuracy of diagnosis; to a more careful selection of cases; to a removal of some of the dangers of the operation; to a discovery of the comparative safety of some proceedings, such as the return of the pedicle with the ligature around it into the abdomen, from which surgeons would have shrunk as nothing less than fatal, and to a more judicious after-treatment; and, consequently, that ovariotomy has increased in certainty, and gained in safety." (pp. 479.)

"I think, then, that we are now bound to admit ovariotomy as one of the legitimate operations of surgery; as holding out a prospect and a daily brightening prospect of escape from a painful and inevitable death, which at last indeed becomes welcome, only because the road that leads to it conducts the patient through such utter misery." (p. 482.)

"I can not expect that the reasons which have seemed to me conclusive in favor of ovariotomy should appear to others equally cogent; though I quite expect that the next seven years will, as the past have done, lessen the objections to its performance, and increase the evidence in its favor.' (p. 483.)

G. B.

THE DIAGNOSIS, PATHOLOGY, AND TREATMENT OF DISEASES OF WOMEN, including the Diagnosis of Pregnancy. By GRAILY HEWITT, M.D., LOND., F R.C.P., Prof. of Midwifery and Diseases of Women in University College, and Obstetric Physician to the Hospital; etc., etc. First American, from the new London edition, revised and enlarged, with 116 illustrations. Philadelphia: Lindsay & Blakiston. 1868. 8vo., pp. 707. Price, $6 00.

[For sale by KEITH & WOODS, Booksellers, St. Louis.]

The first London edition of this work has been a favorite with us, and we find it difficult to express our pleasure and delight at this improved and enlarged addition, embellished by illustrations on wood, the want of which in the first issue had been a marked defect.

Want of time compels us to be brief in our notice. Many of our readers, no doubt, have remained unacquainted with the original edition, and we will therefore refer in a few words to the

plan of the work, which is somewhat peculiar. It was divided into two parts treating, respectively, of the diagnosis and the treatment of diseases of women. But little was said of the pathology of the disorders, and that little mostly in connection with and in explanation of the diagnosis.

The new volume has suffered some material alterations in plan. In the first edition "symptoms, not pathology, had been made the basis of arrangement;" in the present volume, the first part treats exclusively of diagnosis (and several paragraphs of physiological and pathological remarks have therefore been transferred to the second part), while of Part ii., embracing the treatment as heretofore, a large portion also is devoted to pathology; and this half of the book has now been arranged in accordance with the latter, instead of upon the purely symptomatological basis of the original. We must regard this as an improvement of some importance, because the treatment thereby loses the symptomatic character it had assumed by the plan first adopted by the author. Thus the second part has gained both in volume and in the character and value of its contents, completing the book to a thorough and pretty exhaustive treatise on its subject.

The majority of the wood-cuts are originals; and of the rest it can by no means be said that they are too familiar or shop-worn to be reproduced in a new work for the sake of illustrating the text. The delineation of these pictures is good throughout, although the execution of some of them is bad, and shows a lack of artistic taste.

The reprint which Messrs. Lindsay & Blakiston now present to the American medical public forms a very handsome volume, well printed on excellent paper, and it is apparent that unusual attention and labor has been given to its preparation.—We most cordially recommend the work to our readers. G. B.

Extracts from Current Medical Literature.

SURGERY.

1. ***Illustrations of the Antiseptic Principle of Treatment in Surgery.*** By JAMES SYME, F.R.S.E., Surgeon to the Queen in Scotland; Prof. of Clin. Surgery Univ. Edinb.; etc.

[*British Medical Journal*, January 4, 1868.]

The following cases of wounds, compound fractures, and abscesses, selected from those that have been treated under my care in the clinical surgical wards of the Royal Infirmary, will, I hope, tend to illustrate and recommend the antiseptic principles of practice introduced by Mr. LISTER, which, although of the greatest value, there is reason to fear are not yet generally understood or adopted. In the old days of surgery all the steps of a healing process were attributed to the effects of so-called "mundifying," "incarning," and "cicatrising" applications. In more recent times, lotions, simple, astringent, or stimulating, have generally been deemed sufficient; while, still more lately, since M. PASTEUR ascertained that the decomposition of animal substances is mainly owing to atmospheric influence through the agency of its organic molecules, carbolic acid, with other antiseptics, have been variously employed to lessen the discharge and fœtor of suppurating surfaces. But it was left for Mr. LISTER to conceive the fruitful idea of excluding entirely the noxious elements of air so as to protect completely from disturbance the natural restorative action, to which he attributed greater potency than had ever previously been suspected. Thus, while others had used the means just mentioned as correctives, he employed them as preventives, attributing no beneficial effect to their own action on the living tissues, and regarding them merely as a defense from the external source of disturbance. I am told that in one of the London medical journals there has lately appeared a doleful list of bad results from the treatment in question; but I would beg to suggest that, since it has proved so eminently successful in the Royal Infirmaries of Glasgow and Edinburgh, such testimony tends to reflect rather on the practitioner than on the practice. The truth is, that the antiseptic system, in order to be employed with advantage, must be carefully studied and fully understood, theoretically as well as practically. The preparations employed by Mr. LISTER, which have been adopted here, may be denominated carbolic oil, carbolic lotion, and carbolic paste. The composition of the first is carbolic acid and boiled linseed or other fixed oil, in the proportion of one to five:

that of the second, carbolic acid and water, in the proportion of one to thirty; and that of the third, carbolic oil with whitening, in the proportions requisite for the consistence of soft putty.

CASE I. *Parotid Tumor.*—Mrs. T., aged 32, from Aberdeen, recommended to my care by Dr. KERR, one of the surgeons to the Royal Infirmary of that city, was admitted on the 20th of November last for the removal of a tumor occupying the whole of the parotid region. It was of ten years' duration, firm consistence, and nodulated form, hardly admitting of motion, but very distinctly defined. On the 26th I performed the operation without any difficulty or injury of the *portio dura*, twisted the vessels, sponged the wound with carbolic lotion, stitched the edges together by silver sutures, and applied a plaster of carbolic paste. On the third day the wound was found to be quite healed; on the fourth the stitches were taken out; and on the eighth the patient went home.

There are few wounds less apt to heal by the first intention than that which results from the excision of a parotid tumor. The depth and irregular form of the cavity, together with the oozing of blood from the glandular texture, which must be cut more or less during the operation, sufficiently account for the difficulty thus experienced; and the perfect union without a drop of matter, which has just been related, may therefore be regarded as very satisfactory testimony in favor of the antiseptic treatment combined with torsion.

CASE II. *Wound of the Knee-joint.*—On the morning of August 10, J. D., a farm servant, aged 53, while going out to cut grass in the neighborhood of Carnwath, about thirty miles from Edinburgh, fell upon his scythe, which inflicted a severe wound on the right knee. He was put into a cart and conveyed to the nearest railway station, whence he travelled to Edinburgh, and was taken in a cab to the hospital. It then appeared that a wound, about four inches in length, extended obliquely across the knee, dividing the quadriceps extensor tendon, and affording free access to the joint. Carbolic oil was freely applied, by sponging the cavity; the cut edges, which had been widely separated, were brought together by sutures; a pledget of carbolic oil was placed over the wound; and a splint was applied to keep the limb straight. Not the slightest constitutional or local disturbance followed, the pulse never being beyond sixty-three; and on the fourth day, the wound being quite healed, the stitches were removed. On the 13th of September the patient left the hospital with the limb strong and flexible.

There are few more serious injuries than wounds of the knee-joint, even under the most favorable circumstances; and, when aggravated by their large extent, rudeness of the weapon that caused them, or roughness of the treatment to which they are exposed, they still more endanger the patient's limb and life. The very satisfactory result of a case in which all the adverse conditions were so conspicuously present, must therefore be considered a very remarkable, if not unprecedented, occurrence.

CASE III. *Compound Fracture.*—J. P., a boy, aged 5, was admitted on the 30th of September, with his leg so seriously injured by having been

caught between the spokes of a cart wheel, that it seemed at first sight to admit only of amputation. There was a compound fracture of both bones, and, in addition to this, a wound of the integuments and muscles almost completely surrounding the limb at a higher part. The bones were much displaced, and the soft parts severely bruised. Chloroform having been administered, the carbolic lotion was freely injected between the broken ends, and lint soaked in it was applied over the wound. The bones were then carefully adjusted, and retained in their proper position by lateral splints. There was not the slightest constitutional disturbance, or any discharge of matter from the cavity to the orifice of which carbolic paste had been regularly applied, and the limb is now perfectly straight and strong.

[Want of space compels us to leave out the remaining four cases.—ED.]

From such cases as those which have just been related, it is evident that there has taken place in surgical practice an improvement which promises to produce a great diminution of human suffering and danger. Some attempts have been made, anonymously and otherwise, to filch away from Mr. LISTER the credit justly due to him for devising and establishing the antiseptic system, by representing the use of carbolic acid previously for other purposes as an anticipation of his treatment. But, although the agent was not new, the principles of its employment, the modes of its application, and the results of its effects, being so entirely original, I venture to hope that the members of my profession will no longer tacitly sanction such disingenuous and ungenerous conduct.

2. *Naso-pharyngeal Polypus, attached to the Basilar Process of the Occipital, and Body of the Sphenoid Bones, successfully removed by a Section, Displacement, and subsequent Re-placement and Re-union of the Superior Maxillary Bone.* (Service of Dr. CHEEVER). Reported by DAVID W. CHEEVER, M.D., one of the visiting Surgeons to the Boston City Hospital.

[*Boston Medical and Surgical Journal*, Sept. 26, 1867.]

The patient, a student, eighteen years old, entered the Hospital, July 20, with the following history:

About two and a half years ago, he had profuse epistaxis, which continued twenty-four hours. During the six months next following this, he had only occasional slight attacks. At the end of that period he found that his right nostril was wholly obstructed, and he has never since been able to blow through it. He soon became aware of a growth behind that nostril, which gradually but steadily increased, until within a few weeks of the time of entrance, when it grew rapidly. There was some discharge, but it was not offensive until quite recently.

At the time of admission to the Hospital, the soft palate was found to be depressed and pushed forward until it hung at a right angle with the hard palate, and both it and the tonsil were inflamed. At the right side of the fauces a small ulcerated patch could be seen. By the finger a tumor could be felt behind the soft palate, firm, full and lobulated, and extending farther up than the finger could be carried. Its lower lobes hung down into the throat. The whole of the upper part of the pharynx was occupied, except a small space on the left side. Nothing could be passed into the pharynx through the right nostril, but the left was clear. Hearing was imperfect in the right ear; and the respiration was mostly through the mouth. The microscopical examination of the debris of the tumor, removed by a digital examination, revealed only blood corpuscles, pus cells, and *fibrous* tissue. There was no evidence of malignancy.

The patient was able to take liquid or soft food only. The general health was good, with no hereditary predisposition. He was very desirous of an operation for the removal of the tumor.

There was no question that the tumor must be removed, or, before long, cause the death of the patient. The problem to be solved was as to the best method of operating. Three modes offered themselves for consideration.

1st. By ligature, or the *écraseur*, through the nares. This was impracticable, because nothing could be passed through the right nostril opposite to which the bulk of the tumor lay; also because it was not a pedunculated growth. Were it practicable, it could only cut off the growth, without eradicating it; and it would, probably, speedily recur.

2d. By section of the soft palate, of the hard palate, and removal through the mouth, with a subsequent operation for staphyloraphy. This mode, advocated and revived by Nélaton, but really as old as Hippocrates, was abandoned on account of the size and high attachments of the tumor, and the fear that room enough to manipulate could not be got through the section of the hard palate.

3d. By removing the superior maxilla—a plain and easy way, but accompanied by deformity and serious mutilation. Here was a young man with a healthy jaw and perfect teeth, and the disease wholly behind it. Could a portion of the jaw be saved? or even the whole replaced? I decided to make a horizontal section of the jaw; depress it, saving all attachments of the soft parts possible; see if the tumor could thus be reached; and, if practicable, to replace the jaw, and try to save it.

JULY 23.— *Operation.*— The patient was etherized during the first part of the operation, and partial etherization was renewed at intervals; he was seated in a chair, with the head on a pillow.

An incision was made from just below the inner canthus of the right eye, downwards by the side of the nose, following the nasolabial fissure, to the corner of the mouth. The inner flap was dissected up until the symphysis was exposed; and the outer, until nearly the whole of the superior maxilla was free. With a narrow-bladed saw about three inches long the superior maxilla was now divided transversely, about half an inch be-

low the floor of the orbit. The blade of the saw was plunged into the zygomatic fossa, and the front and back walls of the antrum were sawn through horizontally, starting just below the articulation with the malar bone, and terminating in the anterior nares, at the lower end of the nasal bone. The ala of the nose having been lifted up, the right central incisor was next extracted. Strong bone forceps were now used to divide the alveolar process, through the socket of the right central incisor. The cut included the *alveolus only*. The hard and soft palates were not touched. The bone was now held by the palate process, palate bone, and its coössification with the pterygoid processes. Seizing the alveolar process with strong tooth-forceps, the whole section of the superior maxilla was bent down and displaced into the mouth. The antrum was found to be filled by one lobe of the tumor without attachment, while the body of the tumor was attached to the upper, back part and right side of the pharynx and to the base of the sphenoid bone. The body was very firm, and the attachments were broad, covering a space two inches square. These, with considerable difficulty, were severed by scissors, introduced through the opening above the depressed section of the superior maxilla, and the base was cauterized repeatedly with strong nitric acid. The hæmorrhage, which was not excessive, was thereby effectually checked. Four ligatures were applied to bleeding vessels in the course of the first incisions. With the forefinger of the right hand in the throat, and the left in the cavity above the section of the maxilla, they could be made to meet freely, and explore thoroughly the pharynx, which was now found entirely clear of obstruction.

The superior maxillary bone was now hanging with its antrum exposed; and attached by the bent, or broken hard palate, the unbroken soft palate, and the broken osseous, and unbroken muscular and vascular attachments of the pterygoid process of the sphenoid bone. On these attachments we were to rely for the restoration of the bone. The maxilla was easily pushed up into its place, and held by a silver wire passed round the left central, and right incisor teeth; and by the closing of the lower jaw. The flaps of skin were accurately approximated, and united in place by six interrupted sutures.

At the close of the operation, the pulse was 120 and of fair strength. Wine, iced milk, beef tea and opium were ordered, *pro re natâ*. 7 P.M. Pulse 132; reaction good; takes nourishment freely; no vomiting or pain; urine free. ℞ Pulv. Doveri, grs. x. 10 P.M. Sleeping quietly; pulse 88; respiration free.

July 24, A.M.—Pulse 120, good; patient in good spirits; face drawn a trifle to left side; there is a little swelling of the face, and some offensive odor from the clotted blood. The parts syringed with ℞. Tinct myrrh., ʒ i.; aqua, ʒ iv. M. P.M. Pulse 130; no pain; takes beef-tea, milk, eggs, etc., freely; sleeps considerably; functions regular.

July 25.—Pulse 96; except some drowsiness, feels very well; appetite good; sutures removed, and good union found; eye nearly closed by adjacent swelling; the nares and pharynx to be syringed twice a day.

July 26.—Pulse 112; looks brighter; eye very much better; union of flaps quite firm.

July 28.—Improving; discharges more moderate and less offensive; upper jaw in good position, having fallen only a very little; appetite good; bowels regular; sleeps well; no pain.

July 29—A small swelling of palate just behind incisor teeth lanced; discharge of pure blood; general condition of patient as good as usual.

July 30.—Ligatures all away; external wound entirely healed.

August 1.—Quite comfortable; discharge diminishing; a small piece of gutta-percha was moulded between upper and lower jaws of right side, and a bandage around the head and chin to keep the bone up in place.

August 3—Steadily improving; jaw in good position.

August 5.—Discharge from right nostril about normal; patient walks about hospital grounds, without suffering any inconvenience or pain.

August 12.—Still doing admirably. *No purulent discharge.* Some pain on pressure where the jaw was sawed across; plug between jaws continued; no appreciable motion of parts of bone.

August 22.—Progressing very favorably; bandage and gutta percha removed; union of maxilla firm; four weeks since operation.

August 28.—Discharged at his own request, well; still wearing the wire about the teeth.

September 2.—Reported himself at the Hospital in excellent condition; the wire removed; union perfect; able to chew; now six weeks since the operation; respiration clear; examined with the rhinoscope by Dr. LANGMAID, and the pharynx found healthy; a slight catarrh from the right nostril, nothing more.

3. *Fracture of the Cartilaginous Septum Narium.* By M. JARJAVAY, Paris.

[*Brit. & For. Medico-chir. Rev.*, Oct., 1867, from *Bull. de Thérapeutique.*]

M. JARJAVAY has collected fourteen cases of this occurrence, observed at his own (the Beaujon) or other of the Paris hospitals. His general conclusions are as follows:

1. A violent blow on the nose may produce solution of continuity of the cartilage of the septum, and even rupture the fibrous attachments which fix the lateral cartilages to the lower edge of the nasal bones.

2. The fracture may be healed without any consecutive complication.

3. Among the symptoms are bleeding, which stops spontaneously, tumefaction and tenderness, abnormal mobility, with crepitation and a want of resistance to the finger. There is flattening of the cartilage, which is sometimes persistent, and the voice is nasal.

4. The fracture may be of little consequence, only producing some incurvation of the dorsal line of the nose or a lateral deviation.

5. It may, however, be complicated by a wound of the dorsum of the nose, and sanguineous effusion or abscess of the septum.

6. The cutaneous solution of continuity may become fistulous, and the blood or pus of the tumor of the septum obtain exit by an accidental opening on the back of the nose.

7. The pus which issues is in a notably disproportionate quantity to the size of the wound.

8. It can be made to flow out by compression of the sides of the nose.

9. A probe introduced into the fistulous opening penetrates into the substance of the septum, and traverses the cavity of the abscess, which is limited within by the cartilage, and externally by the detached mucous membrane.

10. The fistulous opening at the back of the nose usually heals rapidly as soon as a counter opening is made for the discharge of the pus at the most dependent part of the tumour of the septum.

11. A probe passed into this opening detects a detachment of the mucous membrane and an aperture in the septum through which the instrument can be passed.

12. Fracture of the septum may become complicated with bloody or purulent tumor of the septum, unaccompanied by any external wound or fistula at the back of the nose.

13. The sanguineous tumor, developed shortly after the accident, causes more or less impediment to respiration. If a puncture be promptly made, blood mixed with dark coagula flows out, and is soon replaced, first by sanguinolent, and then by transparent serosity.

14. When the tumor is not considerable enough to completely obstruct the passage of air into the nostrils, and the patient has not at once sought for assistance, after a few days headaches arise, and the integuments of the nose become red, swollen, and œdematous—the median portion of the forehead also soon becoming affected. Under the influence of this inflammatory action, the tumor of the septum enlarges, and completely obstruct the nares. The patient, if now first seen by the surgeon, presents the tumor of the septum as described by CLOQUET, FLEMING, and BERARD, who regarded it as a special affection, while it is really but a complication of the fracture

15. The same phenomena are observed where there is a wound at the dorsum of the nose communicating with the tumor; for although the patient has been able, by blowing the nose, to expel blood, a portion of this always remains in the lower part of the detached mucous membranes To prevent the formation of abscess a counter opening must always be made as soon as possible.

4. *Fracture of the Jaw, through the Neck of the Right Condyle, from a Blow of the Fist on the Opposite Side of the Face.* By Surgeon J. B. COCKBURN, M.D., Royal Engineers.

[*British Med. Journal*, Dec. 28, 1867, from *Army Med. Reports*, 1863.]

The alveolar process was displaced to the left side, to the extent that the canine tooth of the right side corresponded with the central incisor of the

right superior maxilla. The displacement was purely lateral. The lower jaw was in no way protruded or drawn backwards. A very moderate amount of pressure inwards, with the slightest inclination upwards, restored the parts to their normal position. The least attempt to open the mouth caused much pain at a point close to the tragus of the right ear. It was easy to guess the nature of the injury, and it required little manipulation to detect a simple fracture of the condyloid process of the right side, at a point very close to the insertion of the external pterygoid muscle. In fact, from the very partial disengagement of the two fragments, the fracture was diagnosed to have occurred at the very point of insertion of this muscle. A case of simple fracture of one condyloid process, from a *contre coup*, has never yet, as far as he was aware, been recorded; and in this instance, the symptom which Professor HAMILTON of New York points out as an important diagnostic mark between a fracture of the condyloid process and a dislocation of one condyle, was not present — namely, the inclination, in case of fracture, of the chin to the side on which the solution of continuity has taken place. The fracture was put up with a splint of gutta-percha moulded to the lower jaw, the usual chin sling bandage, and with a piece of cork between the teeth; and the results have been in every way most satisfactory.

5. *Modification of the Catheter.* By THOMAS WARDEN, M.D.

[*London Lancet*, Am. Reprint, Jan., 1868, p. 59.]

In cases where the catheter has to be passed when the patient is confined to bed, there is always one part of the operation which is apt to be bungled, to the discomfort both of the patient and operator — viz., getting the end of the instrument into a proper vessel for the reception of the urine. To do this, the handle of the catheter has to be depressed, which in some circumstances gives unnecessary pain to the patient. To obviate this, I beg to submit the following simple modification of the ordinary catheter.

From the lower side of the instrument, about three inches from the extremity, a tube is led, having about the same curve as that at the head end The catheter now presents the appearance of an elongated letter S, with a projecting piece at the angle of the upper curve. This part is impervious, merely serving the purpose of a handle, which may be made flattened, if desired; the curved portion which points downwards is continuous with the tube, and has its orifice closed in the ordinary way with a wire and head. By the direction of this part, the stream can be safely directed into any kind of vessel, without the chance of wetting the patient's bed or the hand of the operator.

6. *Excision of the Entire Clavicle.* By W. W. DAWSON, M.D., Surgeon to Commercial Hospital, Cincinnati, O.

[*Cincinnati Lancet and Observer*, January, 1868.]

Near the middle of August, 1867, J. L. BLACK, aged about twenty years, son of Dr. MILO BLACK, of Clay City, Ill., consulted me in reference to a

fistula situated on the right side and about midway between the sternum and the point of the shoulder. An examination showed extensive disease of the clavicle.

The following is the history furnished me by Dr. BLACK: "About the 15th of December, 1866, my son was taken with pain in his right shoulder, accompanied with a high grade of fever. There was no swelling for the first two or three days, but subsequently it began and extended from the outer point of the right to near the middle of the left clavicle. I applied a blister and in about one week from the attack erysipelas showed itself upon the breast and extended rapidly until the entire head was involved. His fever now assumed a low typhoid grade, accompanied with delirium, hectic, sweating, and a total loss of the use of the right arm. This state of things existed for about two weeks, after which abscesses formed over the breast, on the face, and at the left elbow. Occasionally he would complain of great pain in his back, reaching from his right shoulder to he lumbar region. He could neither rise up nor lie down in bed without help for the space of three months. I opened abscesses to the number of ten or twelve; they all finally healed but the one you saw when he called upon you. The treatment consisted first in blood letting, blistering, alteratives and opiates. Later in the case, tonics, stimulants, and a generous diet were prescribed. The whole trouble, I think, grew out of a kick from a gun which he received while he was hunting, a few days previous to the manifestation of the first symptoms."

Assisted by Dr. BLACK, Dr. JONES, of Madisonville, and Dr. BRUNNING, of the Good Samaritan Hospital, I operated on the 3d of September. In cutting down, I was surprised to find the disease so extensive, involving the entire bone. I decided at once to remove the whole mass.

The line of incision was made over and down to the clavicle. The bone was in a state of necrosis, the acromio-clavicular articulation had perished; hence, at this point it was not necessary to use a knife.

After the dissection of the clavicle, I found on the outer surface of the first rib a small point of caries about half an inch in length and the width of the bone border; this I removed with the chisel. There was but little hæmorrhage. Water dressings were applied for a few days, then poultices. The wound healed slowly but constantly.

On the 19th of October, forty-six days after the operation, I presented my patient to the clinical class of the Commercial Hospital, with the wound healed entirely, presenting the appearance which is given in the engraving.

His father writes me, Nov. 13, as follows: "My son, J. L. BLACK, has arrived at home; he is quite well. I had advised him to remain in your city this winter and attend a commercial college, but he concluded to return to Illinois."

The deformity in this case, as the engraving shows, is very little, a slight depression of the right shoulder is all that can be observed. He has complete use of his arm, and imagines that it is as strong as it ever was.

The tissues in the region of the cicatrix are hard and firm, but what the osteogenic properties of the periosteum which I left may accomplish in the formation of a new clavicle, is yet to be developed.

OPHTHALMOLOGY.

EXTRACTION OF CATARACT.

Recent modifications in the operation for the extraction of cataract may be thus briefly classified: (1) Modifications in the form, size, and manner of making the corneal incision; (2) the combination of extraction with iridectomy; (3) attempts to extract the lens together with its capsule, and (4) the introduction of a suture to facilitate the union of the corneal wound and so diminish the dangers and shorten the duration of the critical stage of the after-treatment.

The scooping method of WALDAU (Schuft) (Berlin, 1860), as modified by BOWMAN and CRITCHETT, (Oph. Hosp'l Rep., Lond., 1865,) has now become one of the established methods of dealing with hard cataracts and cataracts with a hard nucleus. The corneal incision is made with a broad lance-shaped knife, and a piece of the iris, larger or smaller, is excised, preferably upwards. The opening of the capsule is effected in the usual manner, and the exit of the opaque lens through the limited corneal wound, facilitated by the use of a scoop or curette, which may be of a variety of forms, introduced, if necessary, within the eye.

More recently von GRAEFE (Archiv für Ophthalmologie: Berlin, 1865–7,) has employed a long, narrow knife, like a modern amputating knife in miniature, and especially insists on the importance of not entering the eye with instruments except under pressure of urgent necessity.

Attempts at the extraction of the capsule together with the lens have been made by PAGENSTECHER (Klin. Beobacht., Wiesbaden, 1866,) and WECKER (Etudes Ophthal., Paris, 1866.) This procedure involves certain especial difficulties and dangers, and it has not yet been shown that these do not outweigh the peculiar advantages claimed for the method.

The employment of a suture to unite the edges of the corneal incision originated with Dr. H. W. WILLIAMS, of Boston, U. S., (Boston, 1866, and Oph. Hosp'l Rep., London, Sept., 1867.) This novel procedure has in the hands of its distinguished author apparently fully realized the advantages which he has claimed for it, and seems destined to stand as one of the most important of recent American contributions to surgery.

The following extract from Mr. BOWMAN's admirable paper in the *Ophthalmic Hospital Reports*, shows what results have been attained by the scoop or traction method with iridectomy, in the hands of that most accomplished surgeon:

On Extraction of Cataract by a Traction Instrument, with Iridectomy; etc. By WILLIAM BOWMAN, F.R.S.

[*Ophthalmic Hospital Reports*, Vol. IV, Part IV. London, 1865.]

Results of the Traction Method.—Time has so confirmed my early good opinion of the traction operation as to lead me to apply it each year since 1860 to a continually augmenting number of cases, and as experience has accumulated I find that the average of success has risen. It has uniformly been higher than that of the flap-operation in my hands. I have taken some pains to ascertain the final results of my cases, and from a careful review of all those of which records have been kept, amounting to more than a hundred and thirty, I feel able to speak with some confidence on the subject.

1. The *first* class are those in which *the power of reading a small type* (viz., up to No. 6. of JAEGER) has been obtained. Several of these have been able to see No. 1, and many Nos. 3 and 4, but all have been able to read No. 6. The average number reaching this degree of success has been 68 percent, or taking only cases treated in private, they have been 75 percent, or three-fourths of the whole. Of these last, 55.8 percent have not required any secondary operation, 19.2 have attained the result only after a needle operation on the pupil.

2. The *second* class comprises cases in which the power of seeing a type ranging between 6 and 14 of JAEGER has been gained, which might be termed very useful sight for all ordinary purposes. The number of these cases has been in all 14.5 percent. Of this class the cases treated in private, if separately enumerated, rise only to 13.4 percent, a greater number having probably been raised by secondary operation out of the second into the first class in private than in hospital practice.

3. The *third* class comprises such a very limited result as allowed of the patients having fair perception of light of colors, of large objects, of fingers held a foot off, and of seeing their way about in an accustomed place, only some slight improvement, in fact, of their previous condition of complete cataract. These are in all 9 percent; or of the hospital cases 11.4 percent, and of private cases 5.77 percent.

4. The *fourth* class are lost eyes, either bare perception of light, or none. These are (all included) 8 4 percent, or of hospital cases 10.1 percent, of private patients 5.77 percent. Thus also classes 3 and 4 show a higher average of success in private than in hospital practice.

In judging of the real meaning of these results, it must be borne in mind that there has been *no selection of cases most favorable for the operation.* All are noted of which record has been kept, and all patients were operated on to whom it seemed right to offer the chance of an operation, though that chance might be a slender one. Indeed, it may be truly said that the list contains a more than average number of unpromising cases, since the

cases selected during the same period for flap-extraction have been generally those of uncomplicated nature, the traction operation having been adopted in almost all those of the more doubtful kind, according to the indications laid down in the earlier part of this communication. And several of the more satisfactory results have been obtained by the traction operation on the second eye, when the first, from one cause or another, had gone on badly under flap-extraction. It is my decided conviction that had the same series of cases been operated upon by the flap method, the results would have been much inferior.

The conclusions drawn by Mr. BOWMAN are as follows:

1. The operation described may be applied to all cataracts of harder consistence than those which admit of being withdrawn through a puncture of the cornea.

2. The iridectomy, which is a necessary part of it, is no disfigurement, nor does it in any important degree affect the optical result.

3. This operation is superior to flap-extraction by being applicable under chloroform, by its diminished risks during convalescence, and by its greater average success, and by being now and then admissible where flap-extraction would be attended by so little prospect of advantage as to be hardly worth performing.

4. While therefore flap-extraction may still be preferable under certain circumstances, and while it may be open to the future to render its success more secure under various conditions, a general adoption of the traction method would be likely, at present, to add considerably to the percentage of cases of cataract in adults recovering sight by operation.

The statistics of von GRAEFE's "Modified Linear Extraction" have now reached a sufficiently high figure to afford trustworthy data for comparison with other methods. We extract from different sources the following results of this operation, as reported by von GRAEFE, KNAPP, and ARLT, giving an aggregate of about 600 cases:

Professor von Graefe on Extraction of Cataract.

[*Ophthalmic Hospital Reports*, vol. v. part iv., 1866, from *Archiv für Ophthalmologie*, band xii., abt'g 1, Berlin, 1866.]

Speaking from a personal experience of about 300 operations, the Professor states that in 90 percent of them he has obtained a complete result, with acuity of vision between 1-6 and 5-6. Of these cases, in 82 percent the healing process was absolutely normal, and in the other 8 percent was interrupted by some transitory accident. In 10 percent of all the cases operated upon the results were unsatisfactory; but among these the majority were cases of imperfect success, admitting of improvement by subsequent operation. On the whole, it appears that an acuity of vision reaching or exceeding 1-6 has been ultimately attained in 94 percent of the operations.

For the removal of the lens, v. GRAEFE states that it is in every case *possible* to dispense with any form of traction instrument, and to accomplish the desired end by the gliding pressure of the back of the spoon upon the sclera above the wound. The advantages of so proceeding are a less liability to loss of vitreous (in the ratio of 4 to 10), and a more complete escape of the cortex. On the other hand, when the lens is hard, its removal by pressure only takes more time, and therefore protracts the tension of the wound and of the iris, and occasions a larger percentage of cases of delayed healing. The use of the traction-hook is therefore to be recommended when the lens does not readily yield to pressure, and will be required in about one operation out of eight.

The uninterrupted healing of the great majority of the cases has allowed of an extremely simple after-treatment. The compressive bandage has been applied on the operating table, and the patient led away to his ward.

Although the chief purpose of the bandage is fulfilled in the first thirty-six or forty-eight hours, it should be retained for four or five days and laid aside gradually, first for an hour or so in the day, then for a longer period, then for the whole day, and lastly at night. When an eye has become accustomed to a certain pressure, its sudden and complete removal may produce a congestion, followed by hurtful consequences; and it is well known that the ocular vessels are always more distended during the hours of sleep.

It is not one of the least merits of the linear extraction that the eye is much sooner out of danger by this method than by the flap operation. In the former the risk of suppuration scarcely extends beyond the thirty-sixth hour. In the latter it extends even to the sixth day. In v. GRAFE'S practice, suppurative panophthalmitis occurred for the first time in the hundred and fifth operation.

Report of 100 *Cataract Extractions, performed according to von Graefe's New Method.* By Professor H. KNAPP, of Heidelberg.

[*Edinburgh Medical Journal*, January, 1868, from *Archiv für Ophthalmologie*, band xiii, abt'g 1, Berlin, 1867.]

The operations were performed exactly as recommended by Professor von GRAEFE, except in those cases in which, in the 4th stage, the evacuation of the lens can not be effected by pressure. To assist the exit of the lens, KNAPP had recourse to a broad scoop, as he found that with the hook recommended by von GRAEFE he could not get a secure hold of the lens. In a few cases he removed the capsule and lens together — a procedure which he recommends in all cases where the zonule of ZINN is fragile or injured, as is frequently the case in over-mature cataracts, and in those in which the lens substance has become atrophied, and in which earthy deposit and thickening of the capsule have occurred, as also where there is a loose hard nucleus in a softened cortical mass.

We give a few extracts from the statistics of his operations:

As regards the performance of the operations no accidents occurred, in	71 cases.
Escape of vitreous humour to a slight extent, so as scarcely to affect the process of cure,	7 "
Portions of lens remained behind,	2 "
Blood remained in anterior chamber to a considerable extent without having any injurious effect on the result,	1 case.
Blood and portions of lens were left in anterior chamber, but in which the eye recovered with good vision,	1 "
Loss of vitreous humour occurred, and portions of lens were left in anterior chamber,	15 cases
Loss of vitreous humour occurred, and portions of lens and blood were left in anterior chamber,	3 "

The large proportions of cases in which loss of vitreous humour occurred he attributes in the early cases to his want of practice of a new operation, and to the fact that all cases, even the most unfavorable for the operation, are included in the statistics. Particularly unfavorable as regards result he considers those cases in which loss of vitreous *preceded* the evacuation of the lens, as then the use of a traction instrument was required. He lays great stress on the removal of all portions of lens substance, even at the expense of some vitreous humour.

His after-treatment resembles that ordinarily employed. In no case, however, did he apply leeches, as he considers that any pain which may occur on the day or evening of operation is best relieved by sub-cutaneous injection of morphia.

The process of resolution was quite normal in 74 of the cases. In those cases in which no accident occurred during the course of the operation, the healing process was normal in 92 percent; while of those in which accidents did occur in the course of the operation, normal resolution occurred in only 22 percent. He divides his cases, as far as the nature of the cataract is concerned, into the ripe (70 cases), unripe (8), over-ripe (9), and complicated (13), and found that accidents occurred in the course of the operation in

65	percent of the	unripe	cataracts,
23	" "	complicated	"
22	" "	over-ripe	"
20	" "	ripe	"

The resulting visual power in these classes of cases he found to be as follows:

In ripe Cataract—

Incurable blindnesss, in	1 3-7 percent.
Curable blindness,	4 4-7 "
Imperfect vision (enabling patients to guide themselves),	11 "
Good sight (sufficient for reading),	83 "

In unripe Cataract—

Incurable blindness,	12 1-2 "
Imperfect sight,	25 1-2 "
Good sight,	62 "

In over-ripe Cataract—

Imperfect sight,	11 "
Good sight,	89 "

In complicated Cataract—

Curable blindness,	38 percent.
Imperfect sight,	54 "
Good sight,	8 "

The general result as regards vision was:

Incurable blindness, in	2 percent.
Quantitative perception of light,	6 "
A decided improvement in sight, enabling patient to guide himself,	14 "
Sufficient sight to enable patient to perform ordinary work and to read large-sized print,	16 "
Good sight, fitting patient for any employment, and enabling him to read small print,	62 "

The age of the patient did not appear to exercise any particular influence on the healing process. The average period of recovery after operation was 18½ days.

The chief advantage of this method of operating consists in the only exceptional occurrence of purulent deposit in the cornea. He considers the operation perfect so far as the position and form of the incision is concerned, but thinks that a means of removing the anterior capsule of the lens without injury to other parts is much to be desired, and that the instruments at present employed to assist the evacuation of the lens are imperfect.

Report of 217 Cases of Extraction of Cataract by v. Graefe's Method of "Modified Linear Extraction," performed at the Vienna Eye Clinic (Professor Arlt's). Reported by Dr. O. BECKER.

[*Half-yearly Compendium of Medical Science*, part 1, January, 1868, from *Proceedings Ophthalmological Congress*, held in Paris, August, 1867, and reported in *Zehender's Monatsblätter*, September, 1867.]

The operation was in general performed according to GRAEFE'S method, except that an assistant and not the operator himself cut off the iris, and the capsule of the lens was opened by a sharp iris hook.

Besides the above, 20 eyes were operated upon in a little different manner, the section being made below. Of these, 4 eyes were completely lost.

Of the 217 extractions by GRAEFE'S method, 35 times the spoon was used to remove the lens. In all the remaining cases, the operation was completed without entering an instrument into the wound. 30 times escape of vitreous occurred; 7 times there was an unusual hemorrhage, generally connected with alteration of the structure of the iris. Yet the most of these cases furnished a good result.

The varieties of cataract were as follows:

Laminated Cataract,	2
Unripe,	36
Ripe,	100
Overripe,	58

These furnished the best results of all.

Complicated cases (Glaucoma, detachment of retina, irido choroiditis),	21

After-treatment.—Iritis occurred 30 times, reckoning the slightest conditions of irritation in this. Irido-choroiditis and chemosis, 9 times. In all these cases there was some irregularity in the performance of the operation, and 7 of the eyes were almost entirely lost.

Suppuration was observed 5 times after a normal operation. 12 eyes were thus lost in 217 cases.

A supplementary operation was required in 15 cases. There were also 6 cases in which a subsequent operation was necessary, but the patients declined it. This iris became adherent to the canal of the wound 35 times.

The period required for the after-treatment by the previously employed methods was on the average 28 to 30 days. No patient was removed from observation before the sixteenth day.

In the method now employed, the average duration of after-treatment was 17½ days.

SUMMARY.

Suppuration occurs in	5	cases.
Only sensation of light remaining,	7	"
Perfect result,	176	"
Cases where a subsequent operation would have brought a good result,	6	"
Visual power less than one-tenth,	23	"
	217	cases.

83 percent of perfectly good results.

Professor KNAPP, of Heidelberg, reported 83 cases with 66 cures, or more than three-fourths successful.

Dr. HÖRING reported 77 cases, 57 with good result.

Dr. KANKA, Pressburg, 32 cases, 24 successful.

To facilitate the comparison of these results with those which have been obtained by the ordinary "flap extraction," we quote the following statistics of that method from v. GRAEFE:

[*Archiv für Ophthalmologie*, band xi., abt'g 111, p. 7, note; Berlin, 1865.]

Out of 1,600 cases in which during a practice of eleven years von GRAEFE performed extraction, the total failures numbered seven (7) percent. The partial results, that is those in which the patients could not see to read common print, numbered thirteen (13) percent; (of these thirteen (13) percent, three (3) offered no hope of improvement from any subsequent operation, while in ten (10) there remained a chance of attaining a perfect result by farther operative measures). In eighty (80) percent of the whole number a perfect result was attained by a single operation.

Better results even than these were attained after v. G. adopted the "compressive bandage" as a regular part of the after-treatment. Out of 900 eyes thus treated, the total failures numbered only five (5) and the partial results only eleven (11) percent, leaving 84 percent of perfect results.

With his private patients v. G. always had better success than with those in the hospital wards, a result attributable in part to better ventilation, but especially to the better condition of the patients Out of 250 extractions performed upon private patients during the last six years, there were 91

percent of perfect and six (6) of partial results, with only three (3) percent of absolute failures. The separate statistics of the hospital cases would show, of course, results proportionally worse than the general average.

Dr. WILLIAMS' first public mention of his employment of a suture in the corneal flap after extraction, is contained in a prize essay, published two years ago (Recent Advances in Ophthalmic Science, Boston, 1866). It is more fully described, with 25 reported cases, in the Ophthalmic Hospital Reports for September, 1867, from which we make the following extract:

Remarks on the Use of a Suture to Close the Corneal Wound after Removal of Cataract by Flap-Extraction. By HENRY W. WILLIAMS, M.D., of Boston, U. S.

[*Ophthalmic Hospital Reports*, Vol. vi., Part 1, London, Sept. 1867.]

The abstract given below of 25 operations comprises all the cases treated according to this method in the City Hospital during the year 1866, and includes only those thus publicly treated; though I may, perhaps, be permitted to say that the results of cases in private practice, some of which have been watched with interest by distinguished *confrères*, have been even more gratifying (especially as regards shortening of the critical period after the operation), than those obtained at the hospital, and in no instance, of nearly a hundred in which the suture has been employed, have I seen any harm result from it use.

The novelty of the proposed method, and the evident advantages to be hoped for, provided the fact of toleration of a suture in the cornea be once established, may perhaps excuse the publication of some details of these cases, rather than a mere general statement of their results.

The advantages claimed for this plan are briefly these: The lips of the corneal incision (and as it seems to me, the same would be at least equally true where the incision is carried beyond the limits of the cornea) being maintained in contact, unite with more certainty by primary adhesion, and ulceration of their edges is less likely to occur

This early cohesion of the wound greatly lessens the chance of prolapsus iridis — the danger most to be dreaded in flap-extraction.

The prompt re-establishment of the anterior chamber renders it possible to make use of atropia, without fear of inducing hernia of the iris, and, by so doing, to avoid irritation from fragments of cortical substance or of capsule which may remain in the field of the pupil or the posterior chamber, thus diminishing the risk of irido-choroiditis.

The necessity for mutilation of the iris, or the repeated introduction of instruments for the removal of the lens is avoided, and flap-extraction is rendered safer than some recently proposed methods, whether they are combined or not with iridectomy.

The surgeon may, if he wishes to do so, make daily examinations of the condition of the eye, with little fear of disturbing the healing process in

the wound; he may instil solutions of atropia to keep up dilatation of the pupil; and, in case of the appearance of symptoms of internal inflammation, he may at once counteract them by suitable remedies.

The globe being sooner restored to nearly its normal condition, the patient may be less restricted to his bed after the first 24 hours, and may be allowed considerable liberty of movement at an early period.

My mode of inserting the suture is as follows: After extraction of the lens, the centre of the corneal flap is held by a delicate pair of iridectomy forceps, while a fine needle, one-fourth of an inch long, having a flat cutting point, and carrying a single strand only of the finest glover's silk, is passed through it, as near as possible to the edge. The opposite edge of the wound is then seized in the same manner, and the needle passed through at a point corresponding with the insertion of the suture in the flap. Of course, so minute a needle can not be held with the fingers, but must be passed by the aid of a needle-holder of some kind. I have used a short but strong pair of forceps, the blades of which are roughened at their extremities. The suture is then carefully tied, and, where the silk has been waxed, a common double knot has been found sufficient, without a resort to a "surgeon's knot," so called.

The presence of the knot, although so exceedingly minute, sometimes causes slight conjunctival irritation; but far less than might have been expected, and not enough to compromise in any respect the results of the operation. Yet, after its purpose has been served, I think it best carefully to remove it, say at the end of a week or ten days after the operation. This may be readily enough done with tractable patients; but in nervous subjects it may now and then be necessary to administer ether to induce unconsciousness, before attempting it, or to leave the suture, where it gives rise to almost no annoyance, to fall of itself. In more than one instance I have seen it remain *in situ* seven weeks without inconvenience.

In all but four of the cases the extraction was done by the upper section; more recently, however, finding it easier both to insert and to remove the suture where the lower section has been made, this has been preferred.

The following general facts, applying to all the operations, are here stated, to avoid unnecessary repetition.

Complete anæsthesia has been induced by inhalation of sulphuric ether; or, in a few cases, of ether reinforced with a little chloroform. This has long been my practice in operating by extraction; and, so far from observing any of the accidents which have been regarded as likely to occur during or subsequent to the anæsthesia, it has appeared to me that loss of vitreous has been less frequent where etherization has rendered the eye entirely passive, than during operations done while the patients retained consciousness, but could not control the spasmodic action of the recti muscles upon the globe. This opinion as to the advantages of anæsthesia is quite independent of my estimate of its value in facilitating the introduction of the suture, which could scarcely be safely accomplished without its aid, but was formed and acted on long before I conceived the idea of thus holding the edges of the wound in close contact.

The dressings applied have been small compresses laid upon each eye, upon which have been placed graduated pledgets of soft lint, and these have been covered by a strip of linen or calico sufficiently long to cover the forehead and temples; the whole retained in place, without much compression, by two turns of a flannel roller.

A full anodyne has been given at bedtime, after the operation, whenever the patient seemed unlikely to sleep quietly without it, even when no pain was complained of.

In most of the cases I have made a daily examination of the general condition of the eye, and have daily introduced a drop or two of the solution of sulphate of atropia, two grains to the ounce. Perhaps, where the patient makes no complaint, inspection of the eye might with advantage be delayed till the second day. The dressings have been continued for several days, and have been applied to both eyes, whether one or both had been subjected to operation.

Out of the total number of twenty-five (25) cases reported by Dr. WILLIAMS, which embrace all the cases publicly treated by him in hospital during the year 1866, there was but one (1) total failure, and one (1) partial result; the latter being, however, a case of closure of the pupil, remediable probably by an iridectomy. In the other cases the results were entirely satisfactory. Especially noteworthy is the fact that, *in a total number of nearly a hundred cases in which the suture had been employed, in no instance had any harm resulted from its use.*

In conclusion, we venture to express the opinion that the result of a careful study of recent statistics of cataract operations is, on the whole, favorable to the old and classical "flap extraction." And while we recognize in the new methods a most valuable addition to our resources in certain exceptional cases, and especially in dealing with large numbers of patients in public hospitals, we look upon the flap method, with its large corneal incision and unmutilated pupil, as pre-eminently the operation to be chosen in cases for which it is suited. Especially is this true of flap extraction as improved by Dr. WILLIAMS, in which the risks of the operation are greatly diminished without the sacrifice of any of its peculiar advantages.

J. G.

Meteorology at St. Louis.

METEOROLOGY OF JANUARY AND FEBRUARY, 1868.

By GEORGE ENGELMANN, M.D., St. Louis.

	JANUARY.		FEBRUARY.	
	1868.	Average.	1868.	Average.
Barometrical Pressure—				
Mean,	29″.643	29″.618	29″.693	29″.588
Highest,	30″.300	30″.510	30″.212	30″.479
Date,	31st.	8th, 1866.	1st.	10th, 1857.
Lowest,	28″.939	28″.634	29″.162	28.″659
Date,	2d.	21st, 1855.	8th.	21st, 1860.
Temperature—				
Mean,	25°.6	32°.0	34°.6	35°.4
Highest,	62°.5	72°.0	67°.0	81°.0
Date,	3d.	27th, 1864.	24th.	29th, 1840.
Lowest,	—2°.0	—22°.5	4°.0	—15°.0
Date,	29th.	1st, 1864.	10th.	3d, 1856.
Evaporation,	2°.8	2°.5	3°.6	3°.2
Relative Humidity,	66.3	73.1	65.9	70.5
Rain and melted snow—				
Quantity,	1″.71	2″.13	0″.55	2″.70
Days on which it fell,	7	7	3	8
Thunder storms,	0	0	0	1
Principal Winds,	W., SE. and SW.	W., next SE.	SE. and NW.	W. and SE.
Cloudiness,	4·3	5·3	3·7	5·1
Fair days,	13	10	15	9
Variable days,	12	13	10	13
Days without sunshine,	6	8	4	6
Stage of River—				
Mean,	3′.5	6′.5	5′ 3	9′.4
Extremes,	0′.9—6′.6	1′.—15′	3′.4—6′.6	1′.—24′

The weather of the two past months was distinguished by unusual steadiness and dryness, and thus the condition of the five or six preceding months continued to prevail, into which only December had made a break. We rarely have as pleasant and steady winter weather with so many fair days and so few changes as we enjoyed in the past two months. After a few warm days in the beginning of January, winter set in on the 6th with a heavy rain, followed by a northwest storm; in a few days the river was full of heavy floating ice, and in the last week of the month became bridged over near the city, and continued so until the 16th of February, nearly three weeks, after warmer weather had already set in on the 12th of that month. From the 12th to the 26th the weather was mild and spring-like, and in the last few days of February again raw and chilly. The quantity of rain was unusually small, especially in February, and the

atmospheric humidity correspondingly low, and evaporation high; the barometrical pressure was very high, and the temperature, especially in January, much lower than the average.

COMPARATIVE METEOROLOGY OF THE PAST WINTERS AT ST. LOUIS.

	1867–8.	1866–7.	Average.
Barometrical Pressure—			
Mean,	29″.663	29″.551	29″.605
Highest,	30″.300	30″.118	30″.510
Date,	Jan. 31.	Jan. 17.	Jan. 8, 1866.
Lowest,	28″.939	28″.792	28″.518
Date,	Jan. 2.	Jan. 20.	Dec. 8, 1855.
Temperature—			
Mean,	31°.9	32°.8	33°.8
Highest,	70°.0	69°.0	81°.0
Date,	Dec. 25.	Feb. 13.	Feb. 29, 1840.
Lowest,	—2°.0	0°.0	—22°.5
Date,	Jan. 29.	Jan. 18.	Jan. 1, 1864.
Evaporation,	3°.0	2°.7	2°.8
Relative Humidity,	68.8	73.5	72.4
Rain and melted snow—			
Quantity,	5″.91	8″.96	8″.04
Days on which it fell,	18	29	22
Thunder storms,	2	1	2
Principal Winds,	SE. and NW.	SE next NW.	SE. and W.
Cloudiness,	4.8	5.8	5.2
Fair days,	36	22	30
Variable days,	35	44	39
Days without sunshine,	20	24	21
Stage of River—			
Mean,	4′.1	10′.2	7′.2
Extremes,	1′—6′	3′—24′	0′—24′

The winter was principally characterized by the peculiar meteorological condition of the last two months as a dry, serene, and steady one, so that the disagreeable weather of December was soon forgotten. But not so its deleterious effects on the public health: the changeable, wet, gloomy, and rather warm weather, and the low barometrical pressure of December, together with the malarious influences prevailing in the fall, and still exerting their deleterious influences far into the winter months had their usual effect, and fevers of low and often of a typhoid character, complicated with affections of the abdominal organs or of the brain, and more frequently of the organs of the chest, were quite prevalent and not rarely fatal, so that the mortality in January was even greater than in December; since then, it has steadily decreased, and we have every reason to expect a healthy spring season, though the malarious influences, mentioned above, will undoubtedly begin to exhibit their effects again for a few weeks, as soon as the first hot weather sets in in April.

REPORT OF ATMOSPHERIC ELECTRICITY. TEMPERATURE, AND HUMIDITY.

BASED ON DAILY OBSERVATIONS AT 6, 9, 12, 3, 6, AND 9 O'CLOCK, FROM MORNING TILL NIGHT, AT ST. LOUIS, MO.

By A. WISLIZENUS, M.D., St. Louis.

1.—*Monthly Mean of Positive Atmospheric Electricity.*

YEAR.	MONTH.	6 a.m	9 a.m	12 m.	3 p.m.	6 p m.	9 p.m.	MEAN OF MONTH.	NO. OF THUNDER STORMS.	PREVAILING WINDS.
1868.	January	5.8	5.0	6.1	2.7	2.8	2.1	4.1	0	NW., SW., SE.
1868.	Febru'y	5.1	7.0	5.4	4.0	3.7	4.6	5.0	0	SE., NW.

2.—*Monthly Mean of Temperature, Fahrenheit.*

YEAR.	MONTH.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.
1868.	January.	21.1	22.9	28.4	30.8	27.8	25.1	26.0
1868.	February	28.1	32.5	40.0	41.4	38.1	34.7	35.8

3.—*Monthly Mean of Relative Humidity.*

1868.	January.	84.9	76.3	64.2	61.5	70.5	77.3	72.4
1868.	February.	83.4	72.8	58.5	57.3	66.5	73.4	68.6

Editorial.

MEDICAL BIBLIOGRAPHY.

For the present year, the NEW SYDENHAM SOCIETY announces the following volumes: (1) the Collected Works of Dr. ADDISON, edited, with preface, by Dr. Wilks and Dr. Daldys; with six lith. plates; (2) LANCEREAUX'S *Treatise on Syphilis*, vol. i, translated, with additional notes by the author, by Dr. Whitley; (3) an eighth fasciculus of the *Atlas of Portraits of Skin Diseases*, comprising *Erythema nodosum*, *Scabies*, *Prurigo senilis*; and (4) HEBRA on *Diseases of the Skin*, vol. iii.

Anatomy and Physiology.—From Edinburgh (A. & C. Black) we are to have the *Anatomical Memoirs* of JOHN GOODSIR, late Professor of Anatomy in the University of Edinburgh, edited by the Rev. Joseph Goodsir and Prof. Turner. The completing fasciculus (vii) of SIBSON'S excellent *Medical Anatomy* was "nearly ready" in October last (Churchill, London). —In Physiology, we notice several recent continental monographs: FRANKENHÆUSER, the *Nerves of the Uterus*, and their termination in the smooth muscular fibres, gr. 4to, with 8 plates, (Jena); and the first volume, 8vo., of Investigations on *the Nature of the Excitation of Nerves*, by MUNK, with 26 illustrations (Leipzig); CABADÉ, essay on the *Physiology of the Epithelial Tissues*, has been issued by Germer Baillière, Paris.— We are glad to learn of the appearance of an entirely re-written and enlarged second edition of GORUP-BESANEZ' valuable *Textbook of Physiological Chemistry* (German).

Pathol. Anat. and Pathology.—A new *Handbook of Pathological Anatomy*, by Prof. KLEBS, of Berne, is in process of publication (Hirschwald, Berlin), the first number of which comprises the p. a. of the skin, facial cavities, oesophagus and stomach. Messrs. Churchill, of London, are preparing a new edition of Chance's translation of VIRCHOW'S *Cellular Pathology*; the announcement does not say whether it is to be brought up to the level of the (lately issued) fourth edition of the original.

Practical Medicine.—The second volume of REYNOLDS' *System of Medicine*, comprising the diseases of the nervous system and organs of respiration and circulation, will be out about this time (Macmillan & Co., Lond.). The translation of TROUSSEAU'S *Clinical Lectures* will be continued, after the death of Dr. Bazire, by T. Clifford Allbutt, M.B; part iv is announced by Hardwicke, London. Hirschwald, in Berlin, advertises the first number of a "*Medical Clinic* in demonstrative lectures," by Prof. Dr. S. BOTKIN, treating of the diagnosis, genesis, and treatment of diseases of the heart. The number of compendiums of practice in the market is increased by two novelties: LEBERT, *Grundzüge der ärztlichen Praxis*—"Essentials of

Medical Practice"—the first part of which has been published by Laupp, Tübingen; and DALE, "*Compendium of Practical Medicine*, in which a full description of the morbid anatomy of the most important diseases of the body has been attempted" (Churchill, London).

Mr. Lea, Philad., is preparing for early publication a third American edition (from the second enlarged and revised English ed.) of TANNER'S *Manual of Clinical Medicine and Physiological Diagnosis*. The publishing house of Enke, Erlangen, have in press a *Historico-Critical Handbook of Percussion and Auscultation*, by Dr. PAUL NIEMEYER, of Magdeburg.

The first number of a German periodical for mental and nervous diseases —*Archiv für Psychiatrie und Nervenkrankheiten*,—edited, in connection with Prof. L. MEYER, of Göttingen, and Dr. WESTPHAL, of Berlin, by Prof. GRIESINGER, of Berlin,—three names that will be a sufficient guarantee of a high degree of excellence in the "Archiv."

Two monographs on this subject have recently appeared in Paris: SÉMÉRIE, *Des Symptômes Intellectuelles de la Folie;* and SENTOUX, *De la Surexcitation des Facultés Intellectuelles dans la Folie*. There are a few new contributions to the pathology and treatment of epilepsy, viz.: HERPIN, *Des Accès Incomplets d'Epilepsie*, which treats of a kind of premonitory or first stage of epilepsy, in which it is said to be susceptible of cure; and POULET, *Recherches expérimentales et cliniques sur la cause prochaine de l'Epilepsie*, which cause the author concludes to be an excess of ammonia in the blood—"hyperammoniæmia!"

Dr. CHAPMAN, the specialist in ice bags, is publishing "*Epilepsy, Paralysis, and other Diseases of the Nervous System*:" cases illustrative of their successful treatment chiefly by means of ice. We will mention in this connection, another announcement of the same author "*The Sickness of Pregnancy and of other Uterine Affections*," etc.; both treatises "preparing for publication" by Trübner & Co. London. We notice quite a number of monographs, on various medical topics, recently issued or soon to be ready: WATERS, *On Certain Diseases of the Chest*, 8vo., Churchill, London; ROUSTAN, *Recherches sur l'inoculabilité de la phthisie*, 8vo., with plates, Delahaye, Paris,—(the subject thus far had been restricted to the pages of periodicals). FENWICK, Researches into the nature and treatment of *Diseases of the Stomach*, 8vo., Churchill, London. Messrs. Moorhead, Simpson & Bond, N. Y., have in press a reprint of BRINTON, *Intestinal Obstructions*, edited by Th. Buzzard, M.D. The same firm has just published HARDY'S *Dartrous Diathesis*, or Eczema and its allied affections, translated by H. G. Piffard, M.D. Mr. BALMANNO SQUIRE has written a new *Manual of the Diseases of the Skin*, illustrated by colored plates and wood-cuts,—Churchill, London. PAVY, *on Diabetes*, is about to be issued in a second edition. Among French announcements of recent works we read this formidable title: MIQUEL, Medical letters of a veteran of the School of Bretonneau to M. le professeur Trousseau, to put an end to the errors taught concerning *Eruptive Diseases and Specificity*. We are also curious to learn the contents of a book by Dr. WM. ADDISON, entitled "*The Co-existence of two Species of Inflammation*, with special reference

to the forms of Pneumonia," which was published in January by Churchill & Sons, London. The following title to a work the same publishers are preparing is also interesting: "PURSELL, The modern Pathology and Successful Treatment of *Congestive and Inflammatory Diseases* as occurring in their varied forms and complications." Dr. CHAS. MURCHISON'S work on *Typhoid Diseases* has been translated into German.

Surgery.—A Manual of Orthopædic Surgery, by BRODHURST, will be published by Churchill, London; also, a second edition of BIGGS' Orthopraxy. Wood & Co., N. Y., have lately issued a second edition of BAUER'S Lectures on *Orthopædic Surgery*. Longmans & Co. have in press a work on the early recognition and cure of *Spinal Curvatures*, by Dr. LITTLE. The celebrated treatise of SEDILLOT, "De l'Evidement sous-periosté des os," which appeared in 1860, is now issued in a second edition very much enlarged, 8vo., with plates, Baillière et fils; this is a novelty of some importance, following, as it does, close upon OLLIER'S treatise on the regeneration of bone and the artificial production of osseous tissue, which brings forward views directly opposed to those of the former author. Messrs. Churchill announce two monographs: POLLOCK, *On the Defects and Diseases of the Mouth*, including those of the lips, tongue and jaws; with numerous engravings, 8vo.; —and SPENDER, The Pathology and Treatment of *Ulcers and Cutaneous Diseases of the Lower Limbs*, 8vo. Victor Masson et fils, Paris, have published (1868) the first volume of a *Treatise on the Diseases of the Urinary Passages*, by Prof. VOILLEMIER, containing the diseases of the urethra, with 87 illustrations On the subject of Syphilis we see announced: SOLARI, *Traité pratique des Maladies dites Vénériennes*, with 12 plates and 23 chromo-lith. and photogr. figures, Paris, Delahaye, 1867;—VAN MONS, *De l'Unité du Virus Chancreux*, Brussels, 1867;—and MONTANIER, *Quelques Considérations sur le Traitement de la Syphilis*, Paris, Asselin, 1867.

Though the market seems well stocked with textbooks on Ophthalmology, the supply is still increasing: Messrs. Churchill are preparing a *Manual of Diseases of the Eye*, (with numerous plates), by Prof. MACNAMARA, of the Calcutta Medical College. Recent German novelties on this branch are: MAUTHNER, *Textbook of Ophthalmoscopy*, 8vo., Vienna; and HERZENSTEIN, contributions to the *Physiology and Therapeutics of the Lacrymal Organs.*

Obstetrics. Dis. of Women and Children.—We are rejoiced to read the advertisement heralding the appearance, on May 1, of "*The American Journal of Obstetrics* and Diseases of Women and Children," edited by E. NOEGGERATH, M.D., and B. F. DAWSON, M.D., to be published quarterly. We have not the least doubt but that the profession will receive a special journal on this branch, well conducted—as the above names justify us in predicting it will be—, with marked favor. It will come from the house of Moorhead, Simpson & Bond, N. Y. The same firm have in press the *Lectures on Obstetric Operations*, by ROB. BARNES, M.D., edited by Dawson. Longmans & Co., Lond , have issued *Researches in Obstetrics*, by J. M. DUNCAN, M.D.

Among French publications, there are two little works of interest on gynæcological subjects: LASKOWSKI, Study on *Encysted Dropsy of the Ovary* and its Surgical Treatment; and VILLENEUVE, fils, on the *Surgical Treatment of Sterility.*

Therapeutics. Toxicology. Hygiene. — GARROD'S *Essentials of Materia Medica and Therapeutics* is appearing in London in a new and enlarged edition, to be out in March. Dr. RICHARDSON, of London, has collected his large experiences on anæsthetics and published: *On Local Anæsthesia and Volatile Fluid Spray in Medicine and Surgery*, 8vo., Churchill — DEWAR, "on the application of *Sulphureus Acid* to the prevention, etc., of disease," was published at Edinburgh, 1868. Macmillan & Co., London, were to issue a *Handbook of Vaccination*, by Dr. SEATON, in January. On the same subject, we have LANDRIN, *Etude sur la vaccine et la vaccination*, Paris. — Moorhead, Simpson & Bond have just published a reprint of MARCET, *Chronic Alcoholic Intoxication.* The same house have in press a reprint of FLETCHER, *Railways in their Medical Aspects.*

BOOKS AND PAMPHLETS RECEIVED:

[Omitted from our last number for want of space.]

Annual Address before the Medical Society of the State of New York, February 6, 1867. By Jos. C. Hutchison, M.D, of Brooklyn, President. Albany: 1867. 8vo. pamphlet.

["The Moral Power of the Profession, instead of Legal Enactments, the best Agency in effecting Medical Reform."]

Pallen, On the Treatment of certain Uterine Abnormities. Prize Essay. (Extr. from Trans. Amer. Med. Assoc.) Philadelphia. 1867. 8vo. Illustrated.—From the author.

Constitution and By-Laws of the Dunklin County Medical Society of Missouri. St. Louis: 1867.

42d Annual Report of the Mass. Charitable Eye and Ear Infirmary. Boston: 1867.

Report of the Proceedings of the Association of Medical Superintendents of American Institutions for the Insane, 1867. Harrisburg: 1867. 8vo. pamphlet.

Dickson, Studies in Pathology and Therapeutics. New York: William Wood & Co., 1867. 12mo.

Carson, Synopsis of Lectures on Materia Medica and Pharmacy. Philadelphia: Henry C. Lea, 1867. 8vo.

Transactions of the Medical Society of the State of Pennsylvania, 18th annual session, 4th series, part iii. Philadelphia: 1867. 8vo.

Wales, Mechanical Therapeutics. A practical treatise on Surgical Apparatus, Appliances and Elementary Operations. Philadelphia: Henry C. Lea, 1867. 8vo.

Fuller, On Diseases of the Lungs and Air Passages. From the 2d London edition. Philadelphia: Henry C. Lea, 1867. 8vo.

West, Lectures on the Disease of Women, 3d Am. from the 3d Eng. edition. Philadelphia: Henry C. Lea. 1867. 8vo.

Physicians' Visiting List for 1868 Philadelphia: Lindsay & Blakiston.

Davis, Epidemic Cholera in Chicago during the summer and autumn of 1866. 8vo. pamphlet, with map of Chicago.

Seventeenth Anniversary Meeting of the Illinois State Medical Society, held in Springfield, June 4 and 5, 1867. Chicago: 1867. 8vo.

Condie, Practical Treatise on the Diseases of Children. Sixth edition, revised and enlarged. Philadelphia: Henry C. Lea, 1868. 8vo.

Mooren, *Ophthalmiatricke Beobachtungen.* Berlin: Aug. Hirschwald, 1867. 8vo.

[Received since the date of our last issue.]

Tanner, On the Signs and Diseases of Pregnancy. From the 2d enlarged London edition. Philadelphia: Henry C. Lea, 1868. 8vo.

Prince, Plastics; a new classification and a brief exposition of Plastic Surgery. (Reprint from Trans. Ill. State Med. Soc., 1867.) Philadelphia: Lindsay & Blakiston, 1868. 8vo.

Wisconsin State Hospital for the Insaue, Ann. Report, 1866-67. Madison: 1867. 8vo. pamphlet.

Wooster, Diseases of the Heart; their diagnosis and treatment. San Francisco: Bancroft & Co., 1867. Demi-8vo.

Siegle, Treatment of Diseases of the Throat and Lungs by Inhalation. Transl. from the 2d German edition by S. Nickles, M.D. Cincinnati: Carroll & Co., 1868. 12mo.

Bouchardat's Annual Abstract of Therapeutics, etc., for 1867. Transl. by M. J. DeRosset, M.D. Philadelphia: Lindsay & Blakiston, 1868. 12mo.

Damon, Photographs of Diseases of the Skin, taken from life. First series (of 6 plates.) Boston: James Campbell, 1867. 4to size.

American Pharmaceutical Association; Proceedings at the 15th annual meeting. Philadelphia: 1867. 8vo.

Clarke, Observations on the Nature and Treatment of Polypus of the Ear. Boston: Ticknor & Fields, 1867. 8vo.

Stellwag von Carion, Treatise on the Diseases of the Eye, including the anatomy of the organ. Transl. from the 3d German edition by Drs. Hackley and Roosa. New York: Wm. Wood & Co., 1868. 8vo.

Ruppaner, The Principles and Practice of Laryngoscopy and Rhinoscopy. New York: Simpson & Co., 1868. 8vo.—From the author.

Bauer, Lectures on Orthopædic Surgery. Second edition, revised and augmented. New York: Wm. Wood & Co., 1868. 8vo.

Lawrence, *Die optischen Fehler des Auges, Asthenopie u. Strabismus.* (Transl. from the English by Dr. A. Karst.) Krenznach: 1868. 8vo. From the translator.

Browne, On the part played in the circulating movement by the Red Blood Corpuscles. 8vo. pamphlet.

Mayburry, (President's) Address before the Philadelphia County Medical Society. Philadelphia: 1867. 8vo. pamphlet.

Hewitt, The Diagnosis, Pathology and Treatment of Diseases of Women, including the Diagnosis of Pregnancy. First Amer., from the 2d London edition, revised and enlarged. Philadelphia: Lindsay & Blakiston, 1868. 8vo.

American Medical Association, Transactions, vol. xviii. Philadelphia: 1867. 8vo.—From the Association.

Thomas, Practical Treatise on the Diseases of Women. Philadelphia: Henry C. Lea, 1868. 8vo.

Board of Health of the City of St. Louis, First Annual Report (for 1867.) St. Louis, 1868. 8vo.—From the Board.

We regret that want of space compels us to reserve for our next issue quite a number of Bibliographical Notices we have at hand, among them those on WALES' Mechanical Therapeutics, FULLER on Diseases of the Lungs, CONDIE on Diseases of Children, DAMON'S (excellent) Photographs of Skin Diseases, and others.

The same cause excludes a note we were requested to publish, concerning the translation, by Dr. BEARD, of New York, of TOBOLD'S work on Laryngoscopy, stating that it has been issued without the consent and contrary to the wishes of the author.

The *Atlanta Medical and Surgical Journal*, in its December number, 1867, copies our Paris letter from Mr. S. H. FRAZER, in July and August number, p. 337, in full, without crediting it to this Journal.

In the February number of the *Detroit Review of Medicine and Pharmacy*, we find the article on "Solutions of Morphine and Coffeine in Chloroform," which we extracted and translated from the "*Wiener Med. Presse*," reproduced verbatim in our language, but credit given to the latter periodical alone, making it appear as an original translation of the *Detroit Review*.

Unless suitable explanations shall be given the above journals will be dropped from our list of exchanges.

We call the attention of recent graduates to the advertisement of the SESSION OF AN ARMY MEDICAL BOARD in New York city, for the examination of candidates for admission into the Medical Corps of the U. S Army. Candidates must be graduates of some regular Medical College, and must be between 21 and 30 years of age. Full information regarding conditions, examination, pay, etc., will be furnished upon application to the editor of this Journal.

Two of our MEDICAL SCHOOLS have closed their lectures and celebrated the "commencement" of the new school-year. The commencement exercises of the *Missouri Medical College* took place on Feb. 29th, with a graduating class of 25, and numerous *ad eundem* graduations.

The *St. Louis Medical College* held its commencement on March 2d, Prof. GREGORY delivering the farewell address, and conferred the degree of M.D. on 47 candidates.

The *St. Louis Summer School of Medicine* will commence the course of lectures for the coming season at the *O'Fallon Polytechnic Institute*, on Monday, the 16th inst., at 11 o'clock, A. M.

MORTUARY STATISTICS.

The mortality of the city of St Louis for the year 1867 is exhibited in a table compiled by Dr. R. H. O'BRIEN, Clerk of the Board of Health, which enumerates a total of 6,538 deaths: this total includes 371 still-born; subtracting which the number of actual deaths is 6,167, in a population of about 230,000, or 26.81 per mille. There are reported 684 cases (according to Dr. GRISSOM's collection) of Asiatic cholera and 360 cases of cholera morbus. The number of deaths in children under 5 years is 2,953, amounting to about 47.8 percent of the actual deaths (6,167), or nearly one-half.

Number of Deaths in the City of St. Louis, 1868.

DURING THE WEEK	MALES.	FEMALES.	Total.	STILL-BORN.*	UNDER 5 YEARS.
Ending Jan. 10th.	46	45	**91**	12	38
" " 17th.	55	40	**95**	9	54
" " 24th.	60	47	**107**	6	46
" " 31st.	56	41	**97**	4	38
" Feb. 7th.	58	35	**93**	9	36
" " 14th.	59	39	**98**	9	49
" " 21st.	57	28	**85**	13	34
" " 28th.	64	30	**94**	7	42

* From the beginning of this year, the number of still-born is not included in the total of *deaths*.

THE SAINT LOUIS

Medical and Surgical Journal.

MAY 10, 1868.

Original Communications.

*CLINICAL LECTURE ON SPECIFIC DISEASES.**

Delivered at the St. Louis (Sisters') Hospital, by E. H. GREGORY, M.D., Adjunct Professor of Surgery in the St. Louis Medical College.

[Reported by W. B. OUTTEN, M.D.]

GENTLEMEN :—

We speak to-day of Syphilis, and as it is a specific disease, let us for a moment occupy ourselves with a consideration of some of the generalities pertaining to this all-important class of diseases.

The surgeon is familiar with the circumstances and results of traumatism. The causes are obvious, the effects immediate, with a plain relation and exact proportion to both; viz., causes and effects. The degree of inflammation is in proportion to the degree and extent of injury, and the constitutional disturbances which follow bear precisely similar relations. Such cases present disease in its least complicated form, and are what all agree to call common or simple diseases, in contradistinction to a large class of affections

* Introductory to a series of Lectures on Syphilis.

which, whilst they conform in essential particulars to the morbid processes of common diseases, present some addition or modification to them so as to constitute a specific character. To be a little more explicit: a specific ulcer, so-called, may have all the conditions that belong to common ulcers, liable to similar variations, as being more or less inflamed or congested, acute or chronic, progressive or stationary. But beyond these characters are seen properties which are not observed in common ones. What, you ask, are those properties? We answer, these are peculiarities of cause, inception, shape, color, construction, mode of progress, method of extension, and termination, whereby the common phenomena of disease are specificated. The modification so impressed embraces both the general and local phenomena of disease, for there is doubtless an exact correspondence between the two; still the general or constitutional affections of many different specific diseases appear so alike, that we derive our evidence of specific characters almost entirely from the local part of the disease.

With regard to the causes of specific disease, the most striking examples of the whole class are due to the introduction and increase of peculiar organic compounds, morbid poisons so-called, that is, such examples as can be transmitted by inoculation or contagion. Though this morbid poison has never been detected by the senses, aided by the microscope or by chemical analysis, no doubt at the present day is entertained of its existence. So there is a deep mystery about the causes of specific diseases. Again: the primary effects of these poisons are most peculiar, in the fact that they are not manifest to either patient or physician. The place of inoculation seems for several days—in syphilis several weeks—unaffected, but as this is the chosen site for the local manifestation of the constitutional symptoms which ensue in these cases, we are forced to admit a change in the nutrition of the particular part inoculated. How otherwise do we account for the sore at the site of the scratch made by the contaminated lancet in vaccination, or why do

we have the initial lesion of syphilis at the place of inoculation? The inoculated part is not merely injured; if so, the puncture of a clean lancet after vaccination would localize the poison or become the site of a vaccine vesicle, or a slight injury in any part of the body inflicted at the time when one contracts a syphilis would be the seat of a chancre. Such is not the case, therefore, in specific diseases; these are primarily local changes, as in traumatism, but as the primary local changes are not perceived by the patient,—that is not-diseased changes,—we are accustomed to disregard them, and to teach that specific diseases are, when general, primarily constitutional and secondarily local, when local at all. But, as must be inferred, specific diseases may be wholly constitutional. Dr. ROBERT WILLIAMS says: "It may be laid down as a general law, that when a morbid poison acts with its greatest intensity, and produces its severest forms of disease, fewer traces of organic alteration of structure will be found than when the disorder has been of a milder character."

Although the contagious element of specific diseases is so obscure, much is definitely known of its effects and history. The property of self-augmentation, illustrated in syphilis, small pox, vaccinia, etc., is sufficiently familiar to us: an inappreciable quantity of small pox virus increases, in a few days, so enormously, as to inundate the organism, at last oozing out in the form of its characteristic eruption, meanwhile escaping as vapor and contaminating all who may be exposed to its noxious influence. The morbid poison to which we refer is not always volatile, but in most instances inoculable. Many interesting questions arise in connection with the subject of self-augmentation of specific poisons. Dr. CARPENTER has expressed the opinion "that epidemic and other zymotic influences bear with peculiar force on those in whose blood there is an accumulation of disintegrating azotized compounds in a state of change." This opinion of Dr. CARPENTER may or may not be true, but certainly a theory which explains so many facts is most

seductive. This being true, we readily account for the advantages accruing to inoculation over contracting these in the natural way, the fact that many escape contagion altogether, and the other fact that others suffer so intensely; all explicable upon assumed quantitative differences of superfluous material in the system. Besides, qualitative differences explain the innumerable minor or personal peculiarities observed in every variety of specific affection. Again: the time required for the maturation of the poison explains the feature of incubation; and the partial or almost complete elimination of the poison from time to time, and its subsequent increase resulting from the leaven remaining, and the accomplishment of these changes in definite times, account for periodicity so frequently observed in connection with specific disorders. Lastly: as organic compounds are ever changing, and the mutations of the living body ceaseless, and all probably accomplished in definite periods, we comprehend somewhat the transformations, best illustrated by the series of diseases presented by syphilis, viz., primary, secondary, tertiary,—the sequelae of measles, scarlatina, etc.; nor are these transformations limited to the individual, but embrace several generations; for example, a parent with one form of secondary syphilis may have a child with another form; the child of a parent with scirrhous cancer may have an epithelial, a colloid, or a medullary cancer.

The shape, color, construction, mode, and method of extension and termination of specific diseases, are most interesting features. You should not lose sight of the fact that the common phenomena of disease are ever present, with some modification in addition: shape,—if the disease be an external one and an ulcer; color; peculiarities of edges, whether hard or soft, regular or irregular, cut completely through the skin or partially, cut perpendicularly or obliquely, or healing on one border and extending on the other, are all most significant points in diagnosis. A ring, a peculiar blotch, a crescent, etc., a pimple, a vesicle, and a pustule, are all important; degree of extension, direction

of extension. In syphilis we have phagedenic and serpiginous ulcers advancing without respect of structure; the one, phagedena, sweeping entire organs in a few days; the other, equally fatal to structure, occupying years in the accomplishment of its work. Again: specific local affections spread, migrate, disappear from one place and appear at another.

We have remarked that disease when most simple was local, external, and traumatic,—when constitutional, under these circumstances, was distinctly the consequence of the local condition, and invariably proportionate thereto, the differences observed in common diseases being differences of degree, *not varieties*. Now, specific diseases are nearly always constitutional; but for this fact they would be most trivial, as there is no proportion between the constitutional and local symptoms; indeed, as we have said, these affections are most serious when the local changes are least marked. Thus we perceive that the essential part of common diseases forms the non-essential element of specific diseases. Again: the local manifestations of specific diseases, when present, are not constantly on the surface: *e. g.*, in whooping cough, tetanus, hydrophobia, etc., the nervous system bears the brunt of the disorder. In diagnosis the local change is most important, for without it it is not possible to discriminate; hence we meet many vague constitutional ailments, and have a large class of essential fevers. This class, the essential, are an enigma: they have no pathological anatomy; a resort to the microscope and the scalpel have proved alike unavailing. To be sure there are local affections not unfrequently associated, but they are held to be complications. Pneumonia is a frequent associate of continued fever, and enteric involvement is the rule.

The essential fevers most strongly contrast with the simpler expressions of disease which we have presented as the standard by which to measure specific characters. In the one, viz., the common diseases, the local affection

causes the general; in the other, the specific, the local affection follows the general disease. The local characteristic or complication of specific disease is not only important in relation to diagnosis, prognosis, and treatment, but is to be regarded as the final purpose of the greater portion of the morbid processes which precede its manifestation. In the typical class of specific diseases, viz., the contagious and infectious, the morbid poison is thus eliminated, incorporated in an eruption, escaping from all the free surfaces, and sometimes into shut sacs, as in rheumatism and gout. As a rule, the separation of the poison is complete, as in small pox, measles, etc. Occasionally the local trouble may persist for a time after constitutional symptoms have disappeared; for example, the excavation after the fall of the slough in carbuncle, etc.; whilst in syphilis the morbid poison seems to be so combined as to be incapable of separation, presenting every possible variety of transformation, but still clinging to the victim with a tenacity which knows only occasional relaxation but not release, and displaying not unfrequently its most disastrous phases in its descent through generations.

REMARKS ON PUERPERAL FEVER.

Made in the St. Louis Medical Society, February 15th, 1868, by M. M. PALLEN, M.D., Professor of Obstetrics and Diseases of Women and Children in the St. Louis Medical College.

[Reported by W. B. OUTTEN, M.D., Recording Secretary.]

MR. PRESIDENT:—

My remarks shall be few, because I desire to hear others rather than to speak myself. In the main, Dr. BOISLINIERE and I agree. I only regret that Dr. BOISLINIERE was not more explicit in his statements, and that he did not rely more on the views which experience has taught him than on the opinion of others. The opinions which I have for

years entertained concerning puerperal fever are these: Puerperal fever is a fever arising from the peculiar condition in which a parturient female is placed. In this condition some toxæmic element is introduced into the blood; the introduction of such element may be succeeded by inflammation of various organs or tissues, though inflammation does not necessarily follow; and the inflammation is not the cause of the fever, nor is the fever the cause of the inflammation, but these result from a common cause, viz., toxæmia. It has been assumed for a very long time by many eminent pathologists, that the disease arose from local inflammations, as was taught by GORDON, HAY, LEE, and others; and those who believed that it was the result of a local inflammatory action differed amongst themselves in this respect, some averring that it was sthenic inflammation, requiring the lancet, calomel, opium, etc.; others maintained that it was asthenic, and demanded the use of stimulants; a third class believed that it was not at all inflammatory in its character, and was always to be treated as a disease of the typhoid type. Facts prove beyond a doubt, that in most cases actual inflammations do accompany puerperal fever, such as peritonitis, metritis, ovariitis, pleuritis, and inflammations of other parts; but facts also prove that the disease occurs without any inflammation at all. After death the abdominal organs have been carefully examined; the thoracic viscera have been carefully inspected: the uterine veins, and the veins into which these empty, have been cut open, and no product of inflammation found. Now when the results of such microscopic examinations have been urged as a proof that the disease may exist without any inflammatory action, the believers in the doctrine that puerperal fever is the result of local inflammation assert that the examination was not pushed far enough, and that in the radicles or capillaries might be found evidences of inflammatory lesions. With such opponents it is useless to hold any argument. Sir, I have asserted that puerperal fever is a fever arising from the peculiar condition in which

the parturient female is placed, and therefore I believe it can exist in no other condition. When Dr. BEDFORD says, and I think I quote him correctly, that "young women, married and non-pregnant women, the new-born child and the fœtus in utero, even when the mother has no symptoms of the disease, are liable to this affection," he utters a most extraordinary opinion. It is true the fever is analogous to another disease, but this also arises from the peculiar condition in which the patient is placed. I allude, sir, to surgical fever, a fever arising after surgical operations. I have had occasion before, in this society, to point out the analogies existing between the two. In the surgical patient there is a wound inflicted on an external part of the body by the surgeon's knife, and into this wound open the mouths of numerous blood vessels; this wound is repaired by the direct adhesion of its surfaces, or by the exudation of organizable lymph upon its surface, or by the formation of a new skin, or new enveloping of connective tissue. Such a state of things is found in the uterus of the puerperal patient after delivery. The internal surface of the uterus is denuded of its mucous membrane by the separation of the placenta and the exfoliation of the decidual membranes. Into it (the uterus) open numerous blood vessels, and it is repaired, like the stump of an amputated limb, by the exudation of organizable lymph upon its surface, and the development of a new layer of mucous membrane. Again: the surgical patient is liable to shock; so is the parturient patient. The surgical patient is liable to hæmorrhage, both primary and secondary; so is the puerperal patient, and both are followed by fevers presenting the same phenomena during life, and the same lesions or non-appearance of lesions after death. This opinion, sir, has been ably advocated by FERGUSON, SIMPSON, and others. Now, sir, will any one contend that surgical fever is nothing but a peritonitis, a pleuritis, or even a phlebitis? for does it not occur that patients die with fever after surgical operations, without any marks of phlebitis at all? Nay, does it not occur that

when emboli are found in the veins, they are not the results of inflammatory action, but are the results of the coagulation of the blood produced by the absorption of a poisonous element into the circulation. That such coagula are formed by absorption of poisonous elements is proved by the experiments of Mr. LEE, who injected decomposing animal matter into the jugular veins of brute animals. If, therefore, surgical fever may exist with or without inflammation, why may not its analogue, puerperal fever, exist in the same way? If surgical fever be a fever peculiar to the surgical patient, why may not puerperal fever be peculiar to the puerperal female whose condition is about the same? Puerperal fever being, then, a fever peculiar to the parturient condition, what is it that produces it in such cases? Some toxæmic agent introduced into the circulating fluid. Dr. BOISLINIERE has just quoted DUBOIS, and I presume correctly, though I myself do not recollect what DUBOIS has said on this subject, and says that he, DUBOIS, asserts that the fever does not arise from the absorption of the vitiated fluids in the uterus, for if such were true it would be likely to happen very often, as the conditions always exist. To this it may be replied, is it not also true that amputations and other operations are often made and no fevers follow? But, at other times, surgical fevers after operations are the rule, and freedom from them the exception. Fever sometimes prevails in surgical wards of certain hospitals with alarming frequency and results—nay, even in the wards of all the hospitals in a city; so does puerperal fever occur—sometimes as an epidemic, sometimes as an endemic, sometimes confined to one hospital alone. There are certain changes in the condition of the atmosphere, or there may be telluric emanations which will favor the absorption of zymotic matter, and render both surgical and puerperal fevers more prevalent. What these predisposing circumstances are, it is impossible in the present state of our science to determine. But I do not mean to assert that puerperal fever is owing only to the absorption of zymotic matter

from the uterus itself; it may be introduced from without. This has been demonstrated by the circumstances which occurred in the Vienna Hospital, as communicated by Dr. ARNETH. I need only refer to these, as they are familiar to every one present.

Since the publication of ARNETH's paper, experiments have been made on animals, which have given the following results: Any kind of putrefying animal matter introduced into the vagina of a parturient female, produces a malady bearing a strong resemblance to puerperal fever, and frequently followed by death. Very small quantities of fluid in the vagina of a woman or animal attacked with puerperal fever being introduced into the vagina of some other parturient animal, cause puerperal fever or something very much like it. Now I can not agree with Dr. BOISLINIERE that women may have puerperal fever when not parturient. They may have peritonitis, which may arise from causes very different from those producing puerperal fever. They may have metritis, peritonitis, or any other form of inflammation, and so may males. But this is different from inflammation following the toxæmic conditions of the puerperal female. That, as I have already stated, arises from the vitiated condition of the blood itself.

Now, entertaining these views, to-wit, that puerperal fever is a disease dependent upon the vitiation of the blood, and may be followed by inflammation, sthenic or asthenic, or by no inflammation at all, and that it varies in different endemic or in sporadic cases, I can not think that any one plan is applicable to its treatment. We can not rely on the hyposulphites, nor on veratrum, nor on opium, nor on any one remedy; and I regret to hear Dr. BOISLINIERE quote Dr. ALONZO CLARK with seeming approbation. In one case Dr. CLARK gave to a woman opium in most enormous doses; on the second day, for instance, she took 472 grains; on the third day she took 236 grains; after that the dose was rapidly diminished, until on the seventh she took only 8 grains. But this by no means proves that opium is *the* remedy in puerperal fever. It merely proves the extent

that a patient may bear it without dying. Dr. ARMSTRONG, who believed that puerperal fever is always a form of peritonitis, relied greatly on the lancet, calomel, and opium; but he asserted that if he were to be deprived of any one remedy, he would rather be deprived of any one than opium. He, like Dr. CLARK, placed great reliance on opium, though he did not go to the astonishing extent that Dr. CLARK did. Every case is to be treated upon its peculiar merits; sometimes the inflammatory element runs so high, that it alone is to be considered, and it may demand the use of the lancet and other depleting remedies. I do not by any means discard the use of the lancet on such occasions. I will further assert that I have often bled and leeched, and never had occasion to regret it. I never lost a patient when I bled, with the exception of one, and this occurred twenty-five years ago. But I do not mean to assert that on all occasions antiphlogistic treatment is neces sary. Due respect to the prevailing tendencies of disease must be preserved. At this time, when there is a great proneness to diarrhœa in this city, we must be very chary of the use of purgatives, and even a slight purgative may produce such a condition of the bowels.

Here Dr. PALLEN recited the history of a case in his own practice in which there was decided inflammation, and the patient at first was constipated, and in whom a troublesome diarrhœa supervened upon the exhibition of a little calomel guarded by opium, but who recovered under the use of astringents and brandy. But, continued Dr. PALLEN, it is also a common result in puerperal fever that diarrhœa supervenes, nature thus eliminating from the system the toxæmic element. Experiments have proved that it is in this way, *i. e.*, by the diarrhœa, that nature eliminates the poison of putrefying matters when injected into the veins. I need not recite in this Society these experiments, as they are familiar to all. I will not enter at present into the question of the contagiousness of puerperal fever or its resemblance to erysipelas, as I fear I have already occupied too much of the time of this Society.

A CASE OF SYMPATHETIC OPHTHALMITIS FOLLOWING A PENETRATING WOUND WITH LODGMENT OF A FRAGMENT OF A PERCUSSION CAP IN THE OTHER EYE:

With remarks upon Sympathetic Inflammation of the Eye.

By JOHN GREEN, M.D., of St. Louis.

E. G. D., æt. 22, mechanic, received a penetrating wound of the left eye from a fragment of percussion cap, Nov. 5th, 1867. The eye was somewhat sore after the injury, but remained free from active inflammation for about six weeks, during a part of which time vision was tolerably good. Within a day or two after the receipt of the injury he consulted a professed oculist, who told him that there was and could be no foreign body within the eye-ball, and promised to cure him in a week. At the end of a month's treatment, he was informed that there was a foreign body in the eye, and that the eye must be taken out, but no reason was assigned to justify so serious an operation. Perplexed by these contradictory but equally positive opinions from the same person, he lost confidence in him and consulted another practitioner, who told him that a part of the injured eye would have to be removed in order that he might wear a glass eye, but that the operation must be deferred several months, until the beginning of summer. While under this man's treatment, vision was lost in the left eye, and also began to fail in the right eye; at first without pain, afterwards with occasional attacks of moderate photophobia and tenderness on pressure, but without any of the usual manifestations of acute inflammation. At the end of about two months of pretended treatment, he lost all perception of light in the injured (left) eye, and became so blind in the right eye, as no longer to be able safely to guide himself. He then consulted a third adviser, who told him that had *he* been called in season, *he* would have cured *both* eyes.

The case was first seen by the writer Feb. 21st, 1868, three months and a half after the date of the injury. The left eye was in a state of chronic irritation, red, tender on pressure, and the eye-ball much softer than normal. The pupil was distorted and quite small, and behind it the densely opaque crystalline was seen in a state of complete cataractous degeneration. The cicatrix of the wound made by the entrance of the bit of cap was to the inner side, and about half a line distant from the margin of the cornea. All perception of light by this eye had been lost for many weeks. The right eye, which had begun to be affected about two months before (six weeks after the injury to the left eye), presented the usual appearance of an eye nearly destroyed by sympathetic inflammation. The pupil was irregular, contracted, and obscured by a thick deposit of lymph; the pupillary margin was everywhere adherent to the anterior surface of the lens. The iris had undergone an entire change in texture, and presented a thickened and spongy appearance, as if soaked and saturated with lymph; the pupil, gray in color from the deposit of lymph on the anterior capsule of the crystalline, appeared like a deep pit or excavation in the centre of this softened and spongy mass. All signs of the normal fibrous nature of the iris had disappeared. There was considerable photophobia, with increased flow of tears and marked injection of the bloodvessels of the conjunctiva and sclerotic; the eye-ball was quite sensitive to the touch, and seemed a little softer than normal. Vision was nearly gone, only a vague perception remaining of the forms of very large objects; the test letters No. CC, of SNELLEN (four inches in height), could not be distinguished at a distance of two feet, or indeed at any distance with certainty.

The inflammation in this eye, which in the space of two months had produced such destructive effects, had nevertheless begun so insidiously as scarcely to have attracted notice until vision had become seriously impaired. The eye had been slightly sensitive to light, and perhaps a

little bloodshot, but for several weeks there was absolutely no pain. Even the tenderness of the globe when pressed with the finger had not been long noticed. (This absence of acute symptoms is in fact a part of the usual history of sympathetic inflammation, and constitutes one of its greatest dangers, inasmuch as the patient and his advisers generally fail to comprehend the gravity of the case until irreparable injury has been sustained, and vision perhaps lost forever.)

The entire history of the case, and especially the fact of a penetrating wound, of which the cicatrix was plainly visible in the ciliary region, left scarcely a doubt that the foreign body was still within the left eye, and that it was the active exciting cause, not only of the slow inflammatory process which had already destroyed the injured organ, but also of the very insidious sympathetic affection which had so nearly ruined the right eye. The first and clear indication then was the *immediate removal of the active source of irritation by the excision of the injured eye-ball.* This was done on the spot by the usual method of *enucleation*, without the occurrence of any incident worthy of mention. The wound healed in about four days, and within the same period a decided improvement was noticed in the remaining eye, which "felt better;"—he could also "see better." Two weeks after the operation he could count fingers correctly at a distance of four feet; and at the end of four weeks, at eight feet. At the end of the seventh week the redness and tenderness of the eye-ball had passed away, and the iris had regained in part its normal striated texture; the pupil was, however, still obstructed by lymph, so as to leave no hope of the restoration of perfect vision.

On dissecting the eye, the fragment of percussion cap was found embedded in a mass of organized lymph, just posterior to the opaque crystalline; the route by which it had entered the eye was plainly marked by a line of cicatricial tissue traversing the ciliary region at the inner side of the cornea. The retina was completely separated from the choroid, and was seen as a funnel-shaped membrane at-

tached to the other coats of the eye only at the point of entrance of the optic nerve and at the ora serrata; it enclosed a firm opaque mass, made up of inflammatory products, which had been effused around the fragment of copper. Between the shrunken retina and the choroid was a large space filled with coagulable fluid mixed with some blood. —

This case is chiefly important as illustrating the usual course of sympathetic opthalmitis following an injury of the other eye. It shows, also, how such cases may be misunderstood, and in consequence fatally neglected even by men who profess especial knowledge of ophthalmic surgery. Still more is so insidious a disease likely to be overlooked by the general practitioner, into whose hands such cases are most apt to fall. The case illustrates, also, the best result of appropriate treatment, viz., the removal of the injured eye-ball, when resorted to in season, in saving just so much of the other eye as happens to be left at the time. The very considerable improvement in vision during the first few weeks after the operation, is to be ascribed simply to the subsidence of the inflammation, but this improvement has a necessary limit in the permanently impaired condition of the transparent media. Had the injured eye been removed earlier, the visual result would have been proportionally better; *had it been done at the proper time, the other eye would in all probability have been saved in a perfect condition.*

In view of the very great importance of the subject illustrated by this case, a few general remarks are appended upon the origin, nature, and treatment of sympathetic ophthalmitis:

1. *The origin of the disease* is always a peculiar, deeply-seated irritation of the other eye, dependent in most cases upon one of the following causes:

a. A penetrating wound of the eye-ball, especially a punctured or lacerated wound of the ciliary region.

b. A penetrating wound with lodgment and retention of a foreign body within the eye-ball.

c. A state of irritation, attended frequently by bony or calcareous formations within the eye-ball, occurring in eyes which have been long blind from the effects of old injury or disease.

Of those three causes, the second is by far the most important, as being the most certain, sooner or later, to involve the other eye. Sometimes the foreign body sets up so high a degree of suppurative inflammation as to result in its speedy expulsion without involving the other eye in much risk; but in the great majority of cases, the opening made by the entrance of the foreign body is so small, and the immediate irritation dependent on its lodgment within the eye-ball is so slight, that the wound heals promptly, and so the foreign body remains as a permanent source of irritation. But even an attack of acute suppuration affords no safety unless it effects the expulsion of the foreign body. In short there is no safety so long as the foreign body remains within the eye-ball.

If the injury to the eye has been simply a clean incised wound like that made by a sharp knife, it generally heals promptly, and but little danger is to be apprehended, even if it involve the ciliary region. This is absolutely demonstrated by Mr. HANCOCK's operation called "division of the ciliary muscle." If, however, the wound in the ciliary region has been inflicted by a blunt instrument, as a pair of scissors, serious results are very likely to follow.

Under the third class of causes predisposing to sympathetic ophthalmitis, must be ranged nearly all the accidents to which the remnant of an eye-ball is subject after having once been the seat of destructive inflammation. It is a fact now well established, that an eye which has been blind for years, and has continued perfectly quiescent for an indefinite period, may suddenly take on a morbid action, become red and tender to the touch, and speedily light up a sympathetic inflammation in the other eye. Such cases are, fortunately, not so common as those occurring within a few weeks or months after the receipt of an injury, but

the fact that they do occur should make us watchful in all cases of even slight degrees of inflammation in persons who have already lost an eye from injury or disease.

2. *The character of the inflammation in sympathetic ophthalmitis* is uniformly *adhesive* rather than suppurative. It is marked especially by an abundant effusion of lymph upon the surface and in the substance of the iris, giving to that tissue a peculiar sodden and thickened appearance, which when once seen can scarcely be mistaken for the effect of any other disease. The pupil also soon becomes filled with a grayish exudation, which speedily glues the whole posterior surface of the iris and the anterior crystalline capsule firmly and inseparably together. Meanwhile the deeper parts of the eye often become involved in the morbid process, ending in disorganization of the vitreous body with separation of the retina, and general atrophy of the globe. These changes may be completed in a few months, or the course of the disease may be interrupted by frequent remissions, each succeeding attack leaving the eye worse than before, and inflicting new and lasting injury.

Recovery from sympathetic ophthalmitis, in its advanced stages, is always very imperfect, owing to the disorganization of the tissue of the iris and the firm adhesions which it contracts with the capsule of the crystalline lens. The lymph, too, which has been effused into the pupil, is almost certain to remain as a permanent obstruction to vision, even though the deeper parts of the eye may have escaped serious damage. When recovery takes place, the iris slowly loses its thickened and sodden appearance, the muscular fibres become atrophied, and the whole tissue is finally transformed into a tough fibrous membrane.

The diagnosis of sympathetic ophthalmitis is based, first of all, upon the presence of an active source of irritation in a morbid condition of the other eye, resulting from destructive injury or disease. The injured eye appears somewhat congested, and is more or less tender when pressed upon by the finger. The eye-ball is very likely to be softer than

normal, from the fact that it is generally already in a state of advanced atrophy; and, for the same reason, there may be very little actual pain in it. The sympathetically affected eye appears at first to be simply a little "weak,"—it tires easily in attempting to use it, especially in reading, sewing, or any work involving the exercise of the accommodative function. After a time vision is found to be slightly impaired, exposure to the light causes some uneasiness, and the flow of tears is somewhat excessive. It is now discovered, perhaps, that the white of the eye is changed to a reddish or pinkish hue from increased fullness of the vessels of the sclerotic. These symptoms are attended with very little actual pain; often there is *absolutely no pain* at this stage, and if the patient is a young child the disease may wholly escape detection until he has become almost or even wholly blind. This is sometimes the case also in older persons who have been kept for a time in a dark room, or with the eyes bandaged, on account of the original injury. As the disease progresses, the iris is seen to be slightly changed in appearance, it loses its brilliancy and delicate striation, and the pupillary margin seems thickened. The pupil appears fixed, or is sluggish in its movements, and does not respond or responds imperfectly to the action of atropia. Meanwhile the other symptoms become more marked; the pupillary area appears covered with a layer of lymph; the iris gets thicker and thicker, until it looks like a piece of sponge soaked in brownish lymph; and vision is almost or altogether annihilated: at first the eyeball is harder than normal, but it finally becomes quite soft as a result of general atrophy.

Sympathetic inflammation may come on within a few weeks after the receipt of the original injury, or it may be indefinitely postponed, as in those cases in which it results from a morbid action occurring in eyes which have long been useless from old disease or injury. In general we may consider that the immediate danger is over only when

the injured eye has fully recovered from all appearance of irritation.

3. *The indications for treatment* in cases of actual or threatened sympathetic ophthalmitis are two-fold; viz., *therapeutic and prophylactic.* If sympathetic inflammation has actually commenced, as shown by the peculiar symptoms which have been already described, and especially by the continued presence of deep-seated tenderness and irritability in the blind or injured eye, there can be no doubt as to the urgent and absolute necessity of *immediately* removing the cause by the extirpation of the offending eye-ball. The only difficulty lies in the differential diagnosis between sympathetic ophthalmitis and the many simple inflammatory affections to which the eye is subject. Still, in a case of real doubt, it is far better to err by needlessly excising an already worthless eye-ball, than by the neglect or postponement of the operation to incur the risk of blindness. In true sympathetic ophthalmitis, the removal of the cause of irritation by the excision of the offending eye-ball is the *only* efficient treatment, but even this measure does not always succeed in arresting the disease after it has become thoroughly established; still it affords the only chance, and is therefore never to be neglected. Its efficiency is limited, however, at the best, to the arrest of the morbid process; it has no power to repair the injury which the sympathetically affected eye has already sustained from changes in the texture of the iris, deposits of lymph in the pupil, etc. Hence the necessity of resorting to it in the very beginning of the sympathetic affection, but always with the reservation that, after all, the case may possibly still turn out badly.

The question of the removal of a badly injured or diseased eye as a *prophylactic* measure, is often one of much difficulty. If the injury has been followed by a state of chronic irritability, with tenderness of the globe, and especially if the wound has involved the ciliary region, and still more if there is any suspicion of a foreign body lodged

within the eye-ball, there is certainly very great danger in dismissing the case from under the control of the surgeon. If the social rank or other circumstances of the patient are such as to admit of careful surveillance, a hasty decision is to be severely deprecated; but in the case of an obscure person, or one living beyond the reach of competent professional aid, it may often be a question whether it is not better, on the whole, to remove the injured eye, and so insure the safety of its fellow, rather than to run the risk of total loss of sight through probable subsequent neglect. The general rule should be to watch the case carefully, and anticipate the probable sympathetic disease by operating as soon as it is evident that the injured or diseased eye has become the seat of permanent irritation, or upon the very first appearance of premonitory signs of sympathetic irritation in the other eye. But when from force of circumstances the case must be decided promptly, there can be no doubt that it is by far the wisest course to subject the patient to the trifling loss of an already useless eye-ball for the sake of conferring upon him almost certain immunity from the otherwise imminent danger of total and hopeless blindness.

The operation of enucleation of the eye-ball, as now performed, is attended with almost no risk, and is followed by very little pain or inconvenience. It should be performed under the influence of an anæsthetic; the conjunctiva is divided by scissors in a circular direction close to the margin of the cornea, the recti muscles divided in succession as in the operation for strabismus, the eye-ball drawn forward by means of a hook or strong forceps, the optic nerve divided by one clip with the points of the scissors, and finally the oblique muscles, together with any remaining bands of connective tissue, cut through as the globe is lifted or rolled out of its socket. Any bleeding which may occur is readily controlled by the use of cold water, with perhaps moderate compression by means of a bit of soft sponge. An artificial eye may generally be worn in the course of a month, or even sooner in case of necessity.

Other operations involving the removal of a part of the eye-ball are not generally approved in cases of sympathetic disease.

The treatment of the sympathetically inflamed eye consists almost wholly in rest and protection from strong light, and from all external sources of irritation. If any part of the pupillary margin is still free from adhesion, and the iris has not wholly lost its contractility, it is very important to keep the pupil dilated by the use, two or three times a day, of a solution of atropia, of two or four grains to the ounce of water. No operative measure, such as iridectomy, is at all likely to be of any service in arresting the inflammation. In fact, a successful iridectomy is almost impossible, owing to the sodden tissue of the iris, during the active stage of the disease, being so tender as to tear away from the grasp of the forceps.

After all inflammation has subsided, and the previously thickened iris has become converted into a tough membrane adherent posteriorly to the crystalline capsule, it is sometimes possible to restore a useful degree of vision by a peculiar combination of an iridectomy with extraction of the lens. This operation should be undertaken, however, only with great reserve, as it is both extremely difficult of performance and very uncertain in its issue.

[The whole subject of sympathetic inflammation of the eye is fully and ably treated in Mr. GEORGE LAWSON'S admirable work on "Injuries of the Eye," of which a review appeared in this journal for January, 1868.]

616 LOCUST STREET, April 14, 1868.

FISSURE OF THE NECK OF THE UTERUS.

By MONTROSE A. PALLEN, M.D., of St. Louis.

By means of the improved methods of uterine diagnosis, we are now enabled to recognize certain conditions which have heretofore frequently escaped observation during the life of the patient. The use of Sims' speculum, or its modifications, uterine probes, tenacula, etc., reveals many lesions concerning which we would otherwise be uncertain. A very illustrative case is that of fissure of the neck of the uterus, the result most frequently of parturition, but sometimes consequent upon ulcerative processes, producing degeneration or loss of substance of the cervical wall, and slitting for surgical purposes. In consequence of nearly every labor, natural or abnormal, the vaginal portion of the cervix uteri is fissured in one or more directions, and frequently presents, in multiparæ, marked striæ around the os externum.

The fissure extends sometimes to the internal os, but more usually stops about the vaginal fold, and is intravaginal and incomplete. The superior end or apex of the fissure is rarely deeper than the submucous layer of the cervical tissue proper, whereas as it descends it involves deeper layers until the whole tissue is compromised, and the rent presents a triangular form, the base of which implicates the canal and os externum, and the lower edges are decidedly separated and so maintained, because of the contractile nature of the opposite tissue of the neck where no solution of continuity has taken place. Sometimes a few mucous-tissue or uterus-tissue fibres are not torn through, and little bridles are formed from either side.

Without entering into any of the symptoms of such an accident happening at parturition, to which it is most frequently referable, the existence of this condition is readily recognized when the patient is examined by a Sims' speculum, and the edges of the fissure approximated by two

tenacula (as was done in the case to be detailed further on), when the laceration presents about the appearance of that of the patient in question, represented in Fig. 13.

Fig. 13.

This lady, aged about 35, had been suffering with the usual symptoms of uterine disorder more or less for about thirteen years. Her general health had broken down under prolonged leucorrhœal discharges, and pains in the dorsal, lumbar, and hypogastric regions, and she presented a most marked appearance of leukæmia. She was pale; the tissues were flabby; the digestions, gastric, chymic, and chylic, very imperfectly formed; and the whole tendency of the system was to faulty histogenesis. She had been treated more or less for years for latent phthisis, as she had co-added to her other symptoms a slight hacking cough, increasing sometimes to one of quite an aggravating character. Auscultation and percussion revealed no sign of tuberculosis, and the feebleness of respiration and the venous souffles heard at the base of the neck were but symptomatic of the chloro-anæmia. Her medical advisers had occasionally treated her for ulceration of the neck and mouth of the uterus, which latter they stated was enormously dilated; the usual six or eight inch round glass specula being used, which hardly embraced the entirety of the ulceration.

I saw her for the first time on the 14th of February last, when I went to operate for double flexion of the uterus, at the request of a medical gentleman in the city. A digital examination revealed a decided tilting forward of the neck, and so much anteflexed was it, that the finger was with some

difficulty passed between it and the anterior wall of the vagina: this pressure had created considerable vesical trouble. The fundus was considerably retroverted or rather retroflexed, and could be readily traced in the Douglas cul-de-sac per vaginam, and the rectal touch reached even to the anterior wall. What perplexed me most in this case was such an amount of flexion, and none of the induration which I had heretofore found existing in all flexion cases; besides, the cervix was soft and the os very large, and but slight dysmenorrhœa had existed, although menstruation was attended with a most disagreeable relaxation and depression of the nervous system. Hæmorrhoids of course were found, for retroflexion or retroversion without them is the exception, when of long standing. When the Sims' speculum was introduced, the perineum being retracted and the tenaculum hooked into the cervix, a mass of granular ulceration seemed to obliterate the entire os; further traction however revealed that it was confined to the posterior wall; the anterior being pale, slightly indurated and enlarged; the sound (Simpson's) passed in without any difficulty to the ordinary depth of about 2 3-4 inches, measured from the os uteri anteriorly, but not more than 1 3-4 from the upper end of the *ulcer*. I at once recognized that it was a fissure of the cervix, extending from the left margin of the posterior wall of the neck obliquely upwards to the vaginal junction towards the right, and was about 1 3-4 inches in length. The lining membrane was prolapsed and erected, its papillæ or villi increased in size, forming a granulation-like ulceration, known to gynæcologists as granular erosion, or granular ulcer. The pathology of this lesion consists of an absence of epithelium, and each papilla or villus contains a looped vessel, hypertrophied and enlarged, and greatly tending to bleed; these vessels are sometimes so much distended that they become varicose, and the term "varicose ulcer" has been given to them. According to SCANZONI, FARRE, THOMAS, and others, this papilla-hypertrophy may take place in the folds of the everted

membrane of the cervix, producing so much "of convolution and projection, as to have caused the appellations of fungous ulcer, or cockscomb granulation, to be applied to it."

There was, of course, but one plan of treatment to be followed. Here was a traumatism producing uterine hare-lip; at least it had to be treated as hare-lip; which treatment consisted in vivifying the edges and approximating the raw surfaces by silver wire sutures. The dissections were easily made by means of scissors, and a long-handled, narrow-bladed bistoury: the hæmorrhage was but trifling.

Great difficulty is always encountered in passing the sutures, from the fact that most of the needles purchased of the instrument makers are of most miserable quality, and they either break or bend, in being pushed through such a dense structure as the neck of the uterus, besides there are as yet no instruments ever devised which will hold a needle sufficiently firm across the longitudinal axis.* The wounds, after the wires had been passed and twisted, presented the appearance as in Fig. 14. The vagina was syringed out, and the sound passed in the uterus for the double purpose of determining the axis of the canals of the neck and the body, and to see if that of the neck had been embraced in any one of the sutures. The axis was almost normal; the sigmoid shape of the cavities, the result of the double flexion, had disappeared. The operation was performed in the presence of Drs. M. M. PALLEN and J. W. MCLURE.

Fig. 14.

The result of the operation proved that the anteflexion depended upon the contractility of the neck anteriorly, and

* Since making this operation, I have had occasion to pass silver wire sutures through the neck of the uterus, and have experienced no difficulty by using a strong curved needle with an eye just behind its point, three and a half inches long, and with a flat wooden handle. A silk ligature is introduced in the eye of the needle, passed through and caught by a forceps, when a silver wire is looped over it and drawn through by the silk ligature. This needle is very similar to Wood's hernia needle, or Post's perineal needle.

that the retroflexion was caused by a want of infravaginal support posteriorly, together with the general relaxation of the ligaments above and anteriorly. The wound healed in about ten days (or rather the wires were removed at that time) by primary adhesion, with the exception of about the eighth of an inch in the centre, notwithstanding the menstrual flow came on during this period. I touched this fistulous opening with nitrate of silver, and passed another silver wire suture in four or five days afterward, which cut through without producing union. I then applied the actual cautery, and passed a suture pin very deep in the tissue of the neck, and secured it with a very fine iron wire; this was removed in about ten days, and union was complete.

The pains in the back, lumbar region, and in the hypogastrium have ceased; the leucorrhœa exists no longer, and the general constitutional troubles are very much ameliorated. The result, then, proves that the removal of a cause of irritation seated in the uterus or its appendages is frequently followed by a restoration of health. The medication in such cases is principally nutrition, such as good wines, or porter, or ale, with beef, eggs, milk, etc., and some of the bitter tonics. Iron alone seems to do no good, but combined with manganese, principally the lactates and phosphates, either in pill or in solution (glycerole in calisaya bark elixir), has a most charming effect.

821 PINE STREET, April 11, 1868.

A CASE OF ANEURISM OF THE ARCH OF THE AORTA.

Repeated Mistakes in Diagnosis—Puncture of the Sac—Death of the Patient—Post-mortem Examination.

Reported by N. S. RICHARDSON, M.D., and A. M. WILLIAMS, M.D., of Macon, Missouri.

J. B., æt. 39; married; intemperate. One year previous to his death he fell from a horse, since which time until his death he had pain in the dorsal region of the spine. First

attendance was given him by Dr. ——. for "nervous shock." Subsequently Dr. —— II. treated him by mercury to ptyalism for "diseased liver." In turn, Dr. —— III. pronounced the case "unimportant—not worthy of attention." Dr. A., next in charge, after examination, declared the existence of "an anomalous tumor." On the 11th of Nov. (last), Dr. A. called Dr. S., one of the former attendants of the patient, in consultation. Under the impression that the tumor, for months previous apparent, was but a common abscess, a small incision was made by Dr. A. through the integument, and a female catheter introduced. Not finding pus, a bistoury was introduced beside the catheter, and an incision three inches in length made. At the bottom of this was found a very firm clot; scarcely a moment transpired before this was driven out, followed by a pulsating stream of blood. At this moment, the truth flashed on the minds of the operators. Promptly grasping the sides of the wound and closing them firmly, they retained them in apposition by stitches, then applied a firm wooden compress and a bandage; they were thus enabled to control the hæmorrhage; the amount of blood lost being probably three quarts. Supposing the aneurism to be situated on one of the smaller arteries, external to the cavity of the chest and probably the *subscapular*, it was proposed by Dr. S. to ligate the left sub-clavian artery. Time passed without an operation. On the morning of Nov. 14th, the patient died. The reporters of this case were present at the post-mortem examination, which revealed the following condition:

On opening the thorax, some injection of the pleura of the left side was observed, likewise adhesions of different degrees of firmness, and considerable serous fluid in the cavity. An aneurism of the aorta, situated on the posterior wall of the descending portion of the arch, was found, which had by pressure caused the absorption of the left side of the bodies of the third, fourth, fifth, and sixth dorsal vertebræ. About four inches of the fourth rib were also entirely de-

stroyed, with partial destruction of the third and fifth ribs of the same side. There were adhesions of the sac and pleura at the point where the bony walls of the chest had been partially destroyed. It can easily be seen by this that should the sac by any means open in its posterior portion, where it was already protruding through the opening in the ribs, there might still be no hæmorrhage into the pleural cavity. Such was really the case. The sac had opened posteriorly, and the blood had been poured out under the muscles of the back and between them and the pleura costalis, forming in this manner a new tumor much larger than the original sac. It was this new tumor formed by the bursting of the aneurism, and not the true sac of the aneurism, which was incised. Both the original sac and the new cavity were, to a large extent, filled with white fibrinous clots, deposed in firm, strong layers, such as are always noted in long standing aneurisms.

The locality, disposition, and effect of the aneurism described will undoubtedly enlist the attention of the profession; but, in addition, it is worthy of note, that notwithstanding the extent and duration of this remarkable lesion, its aneurismal character was not suspected by the medical men in charge!

February, 1868.

AN UNUSUAL CASE OF NÆVUS MATERNUS.

Reported by W. N. BRENNAN, M.D., of St. Louis.

NATALIE LOGAN, a half-breed Indian woman, native of Green Bay, Wisc., aged 23 years, a widow, was admitted in the Sisters' Hospital, Dec. 27, 1867. She suffered from phthisis pulmonalis, of which she died Feb. 14th, 1868. She was also afflicted with epilepsy. The complexion of her face, the greater part of her body and limbs, was that of a half-breed Indian. She had a nævus maternus, or mother's mark, covering the whole trunk posteriorly, extend-

ing from the occipital region to the inferior nates, and from side to side. It covered the right mamma, and reached midway on the right thigh and to the upper third of the left. It likewise reached midway on the arms. The parts so marked were uniformly black; not so black as a negro's skin, but resembling more the rough skin of a Mexican dog. There was an unusual though sparse capillary growth an inch to two inches long on the entire discolored part; on the back below the waist, particularly, there was a thick growth of hair quite bear-like, two inches long. She was intelligent, and very averse to exhibiting the "bear-mark," as she called it, though there was no very definite shape of a bear about it. She stated that the milk from the discolored mamma always sickened her child. (Probably, her aversion to nursing the child on that side and the consequent inactivity of that gland had caused an alteration in its secretion.)

The history, as related by herself, was that her father was an Englishman. Her mother was an Indian woman of the Menomenee tribe, of Green Bay, Wisconsin. While pregnant, her mother went blackberrying, and in a thicket a large bear suddenly started up beside her and frightened her terribly. She attributed the discoloration of her child to the influence of the mental emotions excited by the fright.

Reviews and Bibliographical Notices.

PLASTICS: A New Classification and a Brief Exposition of Plastic Surgery. A reprint from a Report in the Transactions of the Illinois State Medical Society for 1867. By DAVID PRINCE, M.D. Philadelphia: Lindsay & Blakiston. 1868. pp. 93.

Dr. PRINCE informs the reader "that his paper is an attempt to reduce the subject of plastic surgery to such a classification as to give it an intelligible language, in which each division may be readily designated by a name having an invariable signification."

Under the head of "general hygienic conditions favorable to success in plastic surgery," Dr. P. says: "The ordinary statement is, that the conditions of the best general health are the conditions of the best success in operative surgery; but the correctness of this statement may be called in question. It has been long admitted, that a patient who has, for a considerable time been confined to bed, is more likely to have his wounds heal by the first intention, than one who meets with an accident in the midst of activity; as if the unnatural condition resulting from the quietude of confinement were more favorable to success than the natural condition of activity." "ABERNETHY," says Dr. P., "adopted the rule of keeping patients in bed two or three days who were about to undergo any important operation." "The preparatory diet should be moderate, but it is no more necessary to exclude the nitrogenous elements from the food, than it is to take the mattress from the bed and supplant it by a board."

We think the quotations above most judicious, but instead of questioning the ordinary statement "that the best health was most favorable to success in operations," Dr. P. might have written with more propriety: The ordinary statement requires qualification. As a perfect condition of the body is most favorable to ordinary life, so it must be in the emergencies of life. But, whilst the state of health is most favorable to the activities of life, activity in its turn becomes a condition of life; it is therefore the sudden arrest of activity, whereby the nutrient compounds formed in

anticipation of the demands of active life remain over in the system, there to undergo decomposition and poison the blood. Dr. CARPENTER says, diseases bear with peculiar force on those whose bodies are overcharged with azotized compounds. Such must be the condition of healthy, active individuals suddenly stopped by accident or disease, or injudiciously subjected to an operation without proper precautions.

Dr. P. thinks certain medicinal agents hygienic, and recommends bark and iron: "not simply to remove any suspected malarious condition, but to secure a mild erethism of the nervous system, and an aptitude of the blood for plastic exudation, resulting in the production of tissue, not spongy, like overgrown granulations known as 'proud flesh,' but firm, and readily covering itself with cicatricial skin."

However much Dr. P. may boast of definiteness in classification, he is certainly vague enough on pathology; and when he tells us that "plastic surgery, as now understood, is altogether a modern art, growing out of recently acquired views of physiology and therapeutics," we suspect that any impetus which this department has received from him has been rather the result of his mechanical ingenuity or ingenuity in classification than to his improvement in physiology. It might perhaps be better for science if medical men were more cautious in the use of language implying knowledge, for such declarations as the one last quoted are so vague as to be meaningless, only calculated to excite the ridicule of those who plume themselves on more recent knowledge. "A mild erethism of the nervous system, and an aptitude of the blood for plastic exudation." We are to understand that the nervous system is irritated, therefore exalted, the blood thereby elevated in the physiological scale, and its exudations proportionally vitalized, yea to such a degree as to reproduce, not spongy, proud flesh, "but firm tissue, readily covering itself with cicatricial skin." An elementary book on physiology, DALTON'S, teaches "that fibrin is naturally fluid, and remains fluid so long as it is circulating in the vessels. * * * In the natural process of nutrition, fibrin is assimilated by the tissues and takes part in their organization only when it is absorbed by them from the blood vessels in a fluid form." Exudation is a bad term, not in consonance with modern physiology; the materials of nutrition are educed, absorbed, not exuded.

It is satisfactory to find that the experience of Dr. P. in regard to the use of opium is in accord with that of the best surgeons. He says it is his custom to give opium in connection with all important operations, with reference to its power of annulling pain and preventing inflammation, both at the seat of injury and in distant parts, through reflex action. Opium and alcohol are known to prevent reflex inflammation. This may be the reason why drunkards so seldom take cold. A slight degree of narcotism renders the confinement easy; days which would be long and anxious are rendered by opium short and indifferent. It is not recommended to continue this treatment longer than the duration of the causes of irritation, the effects of which opium is intended to forestall or overcome. The idiosyncrasies will be found fewer than is generally supposed, and when they do exist, or are imagined, a full narcotic dose will generally be better borne than one which excites without quieting.

Dr. P. gives the subject of hæmorrhage due attention, and is evidently partial to the method by acupressure, and presents some good illustrations of the several plans of accomplishing the object.

Another most important matter is discussed, viz., sutures: "Iron, silver, silk, and hemp were exempt from irritation to nearly the same degree for the first two or three days after their insertion. After that time had elapsed, however, there arose around the tracks of the organic threads, more or less inflammation and suppuration, whilst the metallic threads did not excite such irritation by their presence." He concludes, that a silken suture thread is nearly as good as one of metal, in cases where it can be safely removed within sixty hours after its insertion. Dr. P. concludes this subject with a merited compliment to Dr. SIMS: "The medical profession owe a lasting debt of gratitude to Dr. SIMS for his agency in enforcing the advantages of metallic sutures."

Dr. P. thus speaks of water dressing for wounds: "No kind of plaster will adhere persistently under a deluge of water, and the water itself becomes a source of irritation probably by its difference of density from that of the blood; the water, by its law of osmosis, attracting a greater amount of exudation than the necessities of adhesion or granulation require." Prof. WEBER, of Halle, thinks water is by no means an indifferent agent, and that for open wounds, milk, resinous and vegetable extracts, and a

solution of common salt in water agree much better. "Thinks moisture hurtful, and to be avoided by confining the ice or cold in water-proof enclosures—soft rubber." "Thinks a poultice more agreeable to a wound than a fomentation or an irrigation;" "a poultice of bread and milk preferable to one of bread and water, the lactic acid formed by milk opposing putrefaction."

Dr. P. does not mention carbolic acid, but advises chloride of zinc, four grains to an ounce each of glycerine and water as an application to wounds, having performed some most interesting experiments to prove its value.

We have already extended this notice beyond the limit intended, and only add that we think the paper a valuable one, and as presenting a very intelligent summary of what is known upon the subject of plastic surgery, not the least interesting feature of which are the diagrams illustrating the object and end of the incisions.

E. H. G.

THE PRINCIPLES AND PRACTICE OF LARYNGOSCOPY AND RHINOSCOPY, in Diseases of the Throat and Nasal Passages, Designed for the use of Physicians and Students. With 59 engravings on wood. By ANTOINE RUPPANER, M.D., M.A. New York: A. Simpson & Co. 1868. 8vo., pp. 153.

Among the more recently discovered means to correct diagnosis of diseases of special localities, the laryngoscope demands the attention of all those who are not content to continue the old empirical treatment of a class of affections which, from their concealed position, have been hitherto mere matters of guess, but who are ever desirous to profit by every useful mode of acquiring new information, or of perfecting that already possessed.

We believe it to be true when we say that but a very small proportion of all the practicing physicians of our country are more than acquainted with the name of this comparatively new method of exploration. We certainly find but a few who are in possession of the necessary instruments, and a still smaller number who know how to use them. Many have been altogether discouraged by a few failures, and after two or three feeble efforts to learn the art of laryngoscopy, have thrown aside their instruments and declared its impracticability. Such men have never been students; have never applied themselves closely or diligently for the acquiring of information; their knowledge, however much it may be, has been of easy growth, picked up here and there from time to

time, without system and as it were by accident. It is surprising how unconscious some men seem to be of the necessity of a preparatory knowledge of anatomy before attempting any such study as laryngoscopy and rhinoscopy. As SEMELEDER truly remarks: "Even with a respectable amount of anatomical knowledge, the majority of practicing physicians will hardly be sufficiently clear upon the details of the naso-pharyngeal space to be able to forego the preliminary exercises upon the cadaver and upon good models."

The same may be said of the larynx and trachea. The first step must be a familiarity with the anatomical structure and relations of these parts, that when reflected in the mirror we may recognize instantly individual parts as well as the *tout ensemble.*

The object of the volume before us is, as declared in the preface, "to enable the busy practitioner and inexperienced student to overcome by a moderate amount of practice and perseverance, that which is most essential to the successful application of this art."

The author declares his indebtedness, in the compilation of his book, to the works of MACKENZIE, GIBB, CZERMAK, VON BRUNS, and others, and tells us he has had instruction from TUERCK and TOBOLD.

To such as know nothing of the art of laryngoscopy and rhinoscopy, and desire to become acquainted with the necessary instruments and their modes of application, we may recommend the volume of Dr. RUPPANER. It is very well gotten up, and contains excellent directions for proceeding with an examination, and for the application of remedial agents. But its perusal will hardly repay those who are at all familiar with the subject. It is nothing more than a rehash of what has been already done, and contains nothing new, if we except a few instruments of minor importance, which we, at least, have not seen mentioned before.

Chapter I is devoted to a brief historical sketch of the discovery and development of the art. We think very properly the greatest praise is due to TUERCK and CZERMAK who have done so much to force this mode of exploration upon the attention of the profession. It is not a little singular that although the idea of exploring the larnyx and pharynx by means of a mirror was conceived as early as the beginning of this century (so far as we

know), yet it seems to have been abandoned almost as soon as entertained, and only in the last ten or twelve years has it been revived and advanced to anything like a serviceable condition.

No longer is the larynx with its important structures hidden from our sight. It is quite as much within range of actual vision as the internal structures of the eye, and the physician who continues in ignorance of the true morbid appearances of those affections of the larynx, etc., within range of his mirror, can not escape the culpability which should attach to mal-treatment.

Chapter II describes the apparatus necessary for an examination, the *modus operandi*, and some of the obstacles to be encountered. It has always appeared to us that much time and paper has been uselessly expended in the discussion as to the relative merits of round, oval or square mirrors, and as to whether the reflector should be worn upon the forehead or in front of the eyes. This should be left to the choice of each individual, as it will be found that one person will work more readily with one form of instrument, and one with another, while a third will succeed equally well with either. More really depends upon the aptitude of the manipulator than upon the intrinsic merit of his tools. As regards light, one soon learns to manage that; but there is none so satisfactory as sun light, which should always be used when it can be got.

In speaking of some of the obstacles to be overcome, the author says, "it is rather singular that coughing, retching, and dyspnœa are very seldom excited by the introduction of the mirror." While we are not inclined to admit that this observation is altogether correct, we do allow that we are often surprised at the slight disturbance caused by the introduction of the instruments, and often in just those cases where we would have presupposed a great irritability of the parts. The tongue is here truly an unruly member, and according to our experience, the great obstacle in a large proportion of all the cases. The author recommends all patients who have any difficulty in this particular, to practice the management of the tongue before a looking glass, in order to learn how to control its movements. Great sensitiveness and irritability of the fauces is one of the chief obstacles, and notwithstanding all the means tried to diminish the sensibility, a certain proportion of cases must be abandoned from this cause. The repeated introduction of the mirror is recommended as the most effective remedy.

We have never observed so great a variation in the form of the epiglottis as is represented by several wood-cuts.

A few pages are devoted to auto- and recipro-laryngoscopy. For the practice of the former no plan is better than the simple one of Prof. GARCIA, by which he has thrown so much light upon the physiology of the larynx and vocalization.

Rhinoscopy is next treated of, and a few cases introduced to illustrate its advantages in furnishing correct diagnosis of diseases of the posterior nares.

Then the application of remedies to the larynx and posterior nares is considered, and a variety of instruments described for the introduction of solutions, powders, solid caustics, and escharotics.

In his concluding remarks, the author says very truly: "Many instruments have been described in this essay (we say this for the encouragement of beginners) that are not positively necessary to the simple practice of our art."

Indeed we want no more books to tell us what laryngoscopy is, who invented it, or what are the required instruments. Every man is, or at least ought to be, sufficiently instructed in the practicability of the art, and in the mode of applying it. What we need is the report of pathological cases, their appearances as reflected in the mirror, and their treatment. Here lies open a wide field of exploration, and one in which much reputation can be made. What a boon, for example, would be conferred by him who would teach us to cure that persistent follicular inflammation of the mucous membrane of the air tube, which resembles so much the obstinate granular condition of the conjunctival membrane, and which like it often bids defiance to the most skillfully directed remedies.

We hope, then, the next volume which issues from the press on this subject may be devoted to the pathology and treatment of diseases of the air passages, and not to a useless and oft-repeated description of instruments. P. G. R.

MECHANICAL THERAPEUTICS. A practical treatise on Surgical Apparatus, Appliances, and Elementary Operations; embracing Bandaging, Minor Surgery, Orthopraxy, and the Treatment of Fractures and Dislocations. By PHILIP S. WALES, M.D., Surgeon U. S. N. With 642 illustrations. Philad.: Henry C. Lea. 1867. 8vo., pp. 685. Price: cloth, $5 75; leather, $6 75.

The lengthy title of this work explains the nature of its contents: the entire field of mechanical means used in therapeutics;

and the preface tells us that it gives "more minute and extended information upon these subjects than can be obtained from the ordinary text-books." In this the author has been eminently successful, for he has made his treatise as complete as was possible without making it unwieldy; a large volume has resulted, as it is.

On the shelves of the practitioner this work will prove eminently useful, but "in the hands of students" it has its demerits. The student who is of necessity in possession of text-books on surgery and minor surgery will hardly be induced, and ought not to be advised, to purchase an additional work going over the identical ground that constitutes a great part of what the former discuss. Part I and V, for example, of Dr. WALES' book form a very complete "minor surgery" of over a hundred royal octavo pages; parts III and IV are full treatises upon fractures and dislocations, only with less of pathology and symptomatology than the text-books give, and very thorough chapters on treatment; and much of the contents of the second part entitled "Mechanical Bandages and Apparatus" will be found in all works of surgery. This part, however, is the most valuable; it gives a pretty full description of the manifold apparatus invented for remedying the loss of parts (artificial noses, palates, arms, and legs), the loss of function of parts (embracing apparatus for debility of the spinal muscles, hernial trusses, pessaries, for remedying paralysis of various muscles of the extremities, etc.), and the loss of symmetry of parts (wry-neck, curvature of the spine, contractions of the fingers, wrist, etc., anchylosis of the elbow, deformities of the toes, club foot, contracted knee, coxalgia).

The true merit of the book consists in the systematized and collected form in which these subjects are presented under the collective term Mechanical Therapeutics—the appropriate and true title of the book. (The superfluous title on page 33, "Elementary Operations in Surgery," is not judiciously selected, and betrays vacillation in the mind of the author how to define his complex subject.) For the student, the book contains too much; to the practitioner, it is invaluable as a work for reference.

Whatever Dr. WALES here presents is described intelligibly and understandingly; great uniformity in the discussion of each head, and great completeness in the choice of subjects are merits we gratefully acknowledge. To make sure of imparting thorough information, the author has illustrated his pages profusely by

wood-cuts; and though the great majority of the latter show us old and long familiar faces, they were necessary to the elucidation of the subject. In respect to some of them we would have made a different choice. The ordinary straight scissors, *e. g.*, on page 36, are a very homely object to look upon: as everybody knows what ordinary scissors are, it shou'd have been the aim to picture the best and handsomest form only. Many other illustrations lack artistic taste, and not a few convey the impression of instrument makers' advertising cuts.—Our copy has come to us in very handsome leather binding, such as seems to be no longer the ruling fashion for medical books.

G. B.

ON DISEASES OF THE LUNGS AND AIR PASSAGES; their Pathology, Physical Diagnosis, Symptoms and Treatment. By H. W FULLER, M.D., Cantab., etc. From the second and revised London edition. Philad.: H C Lea. 1867. 8vo, pp. 479. Price, $3 50.

The first edition of this book, published in 1862, treated also of diseases of the heart and great vessels, but those subjects are here omitted to avoid inconvenient bulk. The first one hundred and fifty pages are devoted to the physical signs, and they are discussed in a very thorough manner. The author goes anew to the foundations of the science of the diseases of the lungs, taking nothing for granted or on authority, at the same time not neglecting to notice and make use of the observations and opinions of previous writers on the same subject. He has investigated independently the causes of the symptoms, attaching due importance to establishing there a solid basis, without which there can only be an uncertain superstructure for practical use. In fact the book is a good general lesson to the medical observer, by its example inculcating accuracy and thoroughness of work for a definite purpose.

Dr. FULLER is a physician to St. George's Hospital, the scene of JOHN HUNTER'S labors and of his sudden death. In forming his conclusions, Dr. FULLER draws extensively upon the post-mortem records of the Hospital, particularly upon the Decennium Pathologicum, which contains the result of the examinations of 566 tuberculous patients occurring within a period of ten years.

As a specimen of his own work in the hospital deadhouse, we refer the reader to pp. 74, *et seq.*, for the passage is too long for

an extract, where can be found his experiments bearing upon the relation between increased or amphoric resonance, and partially collapsed or solidified lung, and where he presents facts "not as yet recognized or pointed out by authors."

The following is an example of the use that he makes of life insurance examinations in determining the significance of symptoms. In answer to the assertion that both sides of the chest may be taken to present in health the same amount of vocal fremitus, he says: "This certainly does not accord with my experience, which enables me to state, that out of 300 persons of both sexes, and average health and prospects of longevity, who have come before me for examination for life assurance, and whom I have examined specially with a view to this inquiry, above three-fourths (234) have had vocal fremitus more marked on the right than on the left infra-clavicular region, the spot, above all others, where the existence or non-existence of such inequality possesses the greatest importance in relation to the presence of tubercular disease."

In the second part of the book, among the several diseases, 100 pages are given to pulmonary consumption, conveying much valuable information. The author's own experience leads him to think that the children of parents both consumptive almost necessarily prove victims of the disease, but that if one parent only is consumptive, the disease is developed in about three-fifths of the children, and especially those of the same sex with the affected parent.

In opposition to the views held even by many men in our own profession, he cited the reports for 1847 of the Registrar General for England and Wales, which prove, "that in relation to the number of persons living at the respective ages, the mortality from consumption does not vary materially between the ages of fifteen and seventy, but is actually somewhat less between the ages of ten and forty than it is between the ages of forty and seventy."

He is emphatic in inveighing against the housing of consumptives, holding that the out-door wet and cold of a variable climate are much more favorable for them.

The work will repay careful study. It is suitable for the young student as well as the practitioner of medicine. Its style in unambitious, clear, concise, alive with vigorous thought; and we

are glad to see that this American reprint has not attached to its title page the name of any American aspirant for fame, and that it is not encumbered with useless notes.

C. E. B.

ON THE SIGNS AND DISEASES OF PREGNANCY. By THOMAS HAWKES TANNER, M.D., F.L.S., etc. From the 2d and enlarged London edition. With 4 colored plates and illustrations on wood. Philad.: Henry C. Lea. 1868. 8vo., pp. 490. Price, $4 25.

[For sale by KEITH & WOODS, Booksellers, St. Louis.]

Our readers are well acquainted with the many excellent compilations Dr. TANNER has produced, the usefulness and popularity of which are affirmed by the rapid succession of new editions. The work before us, however, is not a mere compilation; while it shares with the former an elegant and accurate style, life-like narration, and an eminently practical treatment of its subject, it bears more prominently upon its face the character of originality. Drawing largely upon the experience of others, of all ages and nations, as the subject necessitates, the author has nevertheless succeeded in imprinting upon his pages the marks of his own mind and his own large experience.

Within the last years, British and American medical literature has been liberally—perhaps too liberally—supplied with works on obstetrics, and still more with gynæcological treatises; in England, as well as in this country, the sufferings of woman—physiological and pathological—have received "marked attention," and the progress in these sciences is unmistakable. But the special branches of diseases of pregnancy and of the puerperal period have not received the measure of diligence and research lavished upon the others. The present work, in which TANNER treats of the diseases of pregnancy in the spirit of contemporary science, was first issued in London in 1860. We are accustomed, however, to rely so much on issues from the American press, whether originals or reprints, for our literature, that few have been fortunate enough to profit from it. The reprint of a new and enlarged edition now laid before us will therefore fill a gap, and we hope that it will find numerous readers accordingly. Our obstetrical treatises for the most part pass over the subject lightly, and those on diseases of women discard it altogether.

The affections of the puerperal state share the same fate; both gynæcological and obstetrical writers either exclude them, or

treat them as appendices merely, and in a fragmentary way. Will not some one undertake the task of supplying us with a systematic work on all puerperal diseases, commensurate with the importance of the subject, and in accordance with the present state of science? For such a book there is ample room, which the older works on this branch do not adequately fill.

The first part—about one-fourth of the book—is devoted to general observations and to the signs and symptoms of pregnancy. The next (3d) chapter of 50 pages expounds the diseases which simulate pregnancy, and is one of the most instructive portions of the work, as its subject is among the most difficult the practitioner has to deal with: the differential diagnosis of pregnancy. "To be able to trace effects to their causes is often a high proof of skill; but unfortunately such ability can not always be shown. In some cases the most experienced physician will have misgivings; hence, none need be so foolhardy as to descend to guess-work." "Should any of my readers entertain the idea that the symptoms of pregnancy are so peculiar and distinct that they can only be mistaken by the rash or ignorant, the perusal of this chapter will probably serve to undeceive them." The latter quotation introduces the obscure subject of "spurious pregnancy."

After giving a number of pages to the duration of pregnancy, the author treats (in chap. v) of premature expulsion of the fœtus: abortion. The chapters following give instruction on the examination of substances expelled from the uterus, — extra-uterine gestation, — superfœtation and missed labor, and the diseases which may co-exist with pregnancy, and their reciprocal influence. The concluding remarks of the last named chapter have reference to the therapeutics of pregnancy and the indications and contra-indications for certain drugs and other remedial agents, which are based on pregnancy.

The part of the book which seems to us the most important to the student and young practitioner, because its subject-matter is least frequently touched upon in the ordinary text-books, are chaps. x and xi: the sympathetic disorders, and the diseases of the urinary and generative organs, complicating pregnancy. Under the former head the author examines the sympathetic derangements of the digestive organs, (including among other subjects salivation, vomiting, hæmatemesis, and diseases of the liver): of the organs of respiration and circulation, (among which

we will mention especially varices, hæmorrhoids, and thrombus vaginæ); and of the nervous system.

The diseases of the generative organs in pregnancy spoken of in the next chapter are chiefly pruritus, œdema of the labia, vaginal leucorrhœa, rheumatism and inflammation of the uterus, and uterine hæmorrhage. Those of the urinary organs are: incontinence and retention of urine, and uræmic eclampsia. We must regret that the last named subject has not received the space its importance and frequency seems to demand. TANNER distinguishes three forms: (1) that in which stupor supervenes abruptly, (2) that in which epileptiform convulsions suddenly set in, with consciousness unimpaired, and (3) the variety in which coma and convulsions are combined; and he seems to accept FRERICHS' and BRAUN'S opinion as to its pathology, believing the convulsions to be caused not strictly by uræmia, but by *ammoniæmia*.

The work closes with a chapter on the displacements of the gravid uterus.

Four colored plates exhibit the appearance of the areola and nipple in different months, and are well executed. The woodcuts are few in number, some very old, some apparently original.

In presenting our readers this summary of the contents of the work without assuming to enter into a critical examination of it, we fully expect that the author's name will be sufficient to attract the attention of medical men to this estimable book. It is systematic in arrangement without pedantry, and the author has carried out the plan "of enforcing the general principles of the subject by the narration of illustrative cases."

G. B.

A PRACTICAL TREATISE ON THE DISEASES OF CHILDREN. By D. FRANCIS CONDIE, M.D., etc. Sixth edition, revised and enlarged. Philad.: Henry C. Lea. 1868. 8vo., pp. 783. Price, $5 25.

The previous edition of this work was published in 1858, pp. 762. The difference between the editions is not, however, the addition of twenty-one pages; the book bears the marks of laborious revision.

It seems scarcely necessary to describe a work that has been so widely introduced and consulted. Treating an extensive range of medical subjects, including the hygienic management, physio-

logy, pathology, peculiar diseases, and even accidents of children, it has been a book of reference to a generation of American doctors.

In regard to his therapeutics, it has struck us that Dr. CONDIE has greater faith in dosing in general, and in the beneficial efficacy of blood letting and mercury in particular, than the recent progress of medicine justifies.

The author's style is equal to the average of medical writers, but we have never heard the complaint that he is too concise.

Our attention has been called to the word "cephalæmatomia," p. 706. It occurs also in the fifth edition. The insertion of the i before the last letter we do not find to be authorized by good usage or analogy.—The final letter of ROKITANSKY's name is y, and not i.

The book is well printed, and attractively bound in cloth.

C. E. B.

OPHTHALMIATRISCHE BEOBACHTUNGEN. Von. Dr. med. ALBERT MOOREN, dirigirendem Arzt der städtischen Augen-Klinik zu Düsseldorf.

[*Practical Observations in Ophthalmology.* By Dr. ALBERT MOOREN, Director of the Ophthalmic Hospital at Düsseldorf.] Berlin: A. Hirschwald. 1868. 8vo., pp. 345.

This volume embodies the results of ten years' experience of the author, during the last five of which he has held the place of director of one of the largest ophthalmic hospitals of Europe. Dr. MOOREN has given us a mirror, as it were, of the daily practice of the Düsseldorf clinique, showing us what is being done there, how it is done, and with what results: and while he has certainly awakened in us the desire to visit Düsseldorf, he has almost spared the necessity by the faithfulness and thoroughness of his work.

The Düsseldorf clinique numbered, for the year 1865, over four thousand new patients: of these seven hundred and fifty-seven were important operations, among which were:

Operations for Cataract, - - - - -	143
" " Artificial Pupil, - - - - -	336
" " Strabismus, - - - - -	252

We had designed to make some quotations, illustrating the author's practice in certain of the more common diseases of the eye, but are prevented by want of space, and by the desire to do the book ample justice by drawing more freely upon its contents

for our "Extracts from Current Medical Literature" in a future number. J. G.

DISEASES OF THE HEART: their Diagnosis and Treatment. By DAVID WOOSTER, M.D., etc. San Francisco: H. H. Bancroft & Co. 1867. 12mo., pp. 215. Price, $1 50.

[For sale by H. H. BANCROFT & Co., 113 William street, New York.]

The author has "prepared during the intervals of daily toil" this little compendium designed to bring the important subject of heart diseases into more convenient shape for the use of the practitioner, by "materially diminishing the labor of finding the knowledge" we have on this subject. Although we can not but applaud the honest intention to produce such an epitome, we must confess that the author has not quite attained his purpose.

We have, on the whole, no faults to find with the book but those which the author himself acknowledges in the preface. Throughout the volume we meet with evidence that the writer possesses considerable experience and a fair knowledge of heart diseases and their literature. It does not claim to be complete and systematic, and the author confesses that it lacks that unity of design which is desirable in a strictly systematic treatise. But it strikes us that the want of system, and of unity of design, is an imperfection in *any* work, however brief; and it seems to prove so in this case. Whatever Dr. WOOSTER says in his book is reliable, useful, and important; but it is badly arranged, the manner in which the paragraphs are numbered is very confusing, and the most incongruous subjects are sometimes placed in apposition. In the section on the diagnosis of mitral incompetency we meet with a long digression on intermittent pulse; and the remarks on its treatment frequently run upon the treatment of heart diseases in general, to which a special chapter is assigned in another place. This arrangement *increases* "the labor of finding the knowledge" we seek.

Dr. WOOSTER remarks "that a very small proportion of the practitioners of medicine are able to diagnose an affection of the heart with even tolerable exactness." To all those of the large remainder, who have either too little application or too little leisure to avail themselves of the larger text-books on the diseases of the heart, we would recommend, in the interests of their patients, the careful study of the little epitome before us.

The publishers' part might have been performed more carefully. We have become accustomed to see medical works appear before the public in a comelier dress.

G. B.

ANNUAL ABSTRACT OF THERAPEUTICS, Materia Medica, Pharmacy, and Toxicology, for 1867; followed by an original memoir on Gout, Gravel, and Urinary Calculi. By A. BOUCHARDAT, Professor of Hygiene to the Faculty of Medicine, Paris; Member Imp. Acad. of Medicine. Transl. and edited by M. J. DE ROSSET, M.D., Adjunct to Prof. Chem., Univ. Maryland. Philadelphia: Lindsay & Blakiston. 1868. 12mo., pp. 314. Price, $1 75.

It is unnecessary to recommend this annual by anything more than its announcement. Aside from the extended and high reputation the *Annuaire* has always enjoyed, every practitioner of medicine will, or ought to, welcome a yearly report on the progress of therapeutics, edited by so experienced a hand as Prof. BOUCHARDAT's. (The sources of information are, of course, chiefly French publications.)

To this report is added a brief exposition of BOUCHARDAT's views on the formation of stone and on gout. The diseases connected with gravel and stone he divides into four groups: (1) the uric acid diathesis, which he calls a "*polyuric affection*,"—the calculous disease of adults; (2) the production of cystine,—"*cystinuria*,"—a rare affection; (3) the important group of the oxalic diathesis, "*oxaluria*," which predominates in children and in inhabitants of the country; and (4) the group of phosphatic deposits, "*phosphypostasis*," in the aged, in the course of diseases of the urinary passages, and in persons who have indulged in venereal excesses.

The diseases due to an excess of uric acid are gravel, calculi, and gout. The distinction between rheumatism and gout—diseases of very similar local and general phenomena, yet differing widely in their etiology—is well put by the author, but without giving much assistance to a differential diagnosis. The essence of this distinction is: in rheumatism there is an insufficiency of material appropriated to calorification; in gout there is an imperfect combustion of calorific material, due to want of exercise and consequent insufficient respiration. This proposition is somewhat different, as respects rheumatism at least, from the views expressed by BENCE JONES, in his recent work on the applications of chem-

istry to pathology, who attributes rheumatism, like gout, to sub-oxidation, the only difference being in the materies morborum, that of gout being known to be uric acid, that of rheumatism unknown (but suspected by B. JONES to be sudoric acid).

The treatment of gout is that of "polyuria" in general. To eat moderately, drink enough water to reduce the specific gravity of the urine to 1015, have two fæcal evacuations a day, promote the activity of the skin, take daily exercise in the open air,—this is the regimen prescribed. Of remedial agents, B. generally limits himself to an alkaline bicarbonate, to alkaline salts of organic acids, and to benzoic acid (or benzoate of soda or lime). The latter remedies are given in a dose of 15 to 45 grains in twenty-four hours with a view to the conversion of the uric acid into hippuric, which is soluble and easy of elimination.

We hope that the translator and publishers will meet with sufficient remuneration in this undertaking to justify them in issuing henceforth a regular American edition of this valuable annual. G. B.

PHOTOGRAPHS OF DISEASES OF THE SKIN, taken from Life under the Superintendence of HOWARD F. DAMON, A.M., M.D., Fellow of the Mass. Med. Society, etc., etc. First series. Boston: James Campbell, 18 Tremont street. 1867.

We heartily wish and hope, that this most worthy undertaking may meet sufficient support to warrant the publisher in continuing it to the very end. The object of Dr. DAMON and the publisher is to produce accurate and distinct representations of all the classes of cutaneous disease, to assist in the study of dermatology, at a cost not exceeding the means of the student. It is intended to produce two photographs once each month, to complete the series in about a year, so that we presume 24 plates to be the number proposed to be issued; *but if the undertaking is well supported, it will be continued until illustrations of all cutaneous diseases are given*, making a complete atlas of diseases of the skin. The collection is published in numbers of two photographs, or series of six, at the extremely low price of one, resp. three dollars; so that each photograph—an oval of about 5 inches by 4, on a stout quarto size *carton*—is sold at the price of fifty cents.

The first series now before us consists of photographs of (1) *chronic eczema*, the palmar surface of a hand; (2) *herpes zoster*

on the abdomen, an exquisite representation of a well chosen case; (3) *impetigo* on the face and ear of a boy; (4) *ecthyma;* (5) *rupia* in the face,—a very characteristic case; and (6) an annular *rupia* on the thigh. We have rarely seen photographs of such beauty and distinctness illustrating medical subjects. Their only defect is their size, which in some cases is too small; but this is a defect which, thanks to the sharpness of the photograph, can be remedied by any magnifying lens. Nor *is* it a defect, being intimately associated with the low price, we presume. The vesicles of zoster, the impetigo pustules especially on the ear of the boy, and the face of the girl with rupia, regarded with a lens of moderate magnifying power, are most beautiful objects of study, and the characteristic points of the eruptions are brought out with a distinctness that is surprising. We therefore do not hesitate to advise all who turn their attention to skin diseases to procure this cheap and efficient help.

The second series will embrace: 1, alopecia circumscripta; 2, alopecia areata of the scalp and lentigo of the face; 3, herpes iris; 4, herpes circinnatus et iris; 5, congenital ichthyosis of the arms, and 6, of the legs. G. B.

THE PRINCIPLES AND PRACTICE OF OBSTETRICS. By GUNNING S. BEDFORD, A.M., M.D., Professor of Obstetrics, the Diseases of Women and Children, and Clinical Obstetrics, in the University of New York; author of Clinical Lectures on the Diseases of Women and Children. Illustrated by four colored lithograph plates, and ninety-nine wood engravings. Fourth edition, carefully revised throughout, and enlarged. New York: Wm. Wood & Co. 1868. 8vo., pp. 763.

The former editions of Prof. BEDFORD'S lectures on obstetrics have been noticed in our journal. That the volume containing them is one of the best treatises on the subject is an opinion that we have already expressed; and in this opinion we find that the medical press in general concurs. We propose in the present notice of the fourth edition, to draw the attention of the profession particularly to the single subject of *instruments*, as means of aiding labor. That these "*iron*" appliances are too frequently used in our day, is generally admitted. Now-a-days the forceps are most recklessly employed. According to the statistics of CHURCHILL, the forceps in times past have not been used once in a hundred cases; *now* they are used, by some practitioners, four

or five times as often. The rule seems to be to apply them as often as there is the least excuse for the operation. Is the labor a little tardy, the forceps are applied; if the practitioner is tired of waiting, the forceps; if dinner time is coming, the forceps; and, then, there is a good excuse for a larger fee if the forceps are applied. It is quite a feat to apply the forceps! There is some *éclat* about it! It is something approaching to clitoridectomy. But the poor woman,—what about her? She may be made an invalid and an object of disgust for life. Some poet said long ago of the hasty trials and judicial murders of JEFFRIES:

"Wretches hang that jurymen may dine;"

and it may be said with equal truth, that women suffer that obstetricians may save time and gain reputation.

Patience is a great virtue, and no one needs this virtue more than the obstetrician. He must or should "learn to labor and to wait," or, at least, to wait whilst his patient labors.

We have attended many cases of obstetrics in the thirty-five years of our experience as a practitioner of medicine. In that time we have sent for Prof. PALLEN two or three times to apply the forceps, or rather to consult him as to the propriety of their application; we remember only two cases in which they were applied.

Dr. BEDFORD's condemnation of the frequent use of these instruments, entitles him to the thanks of the profession and of mankind. We quote a case or two from his work, illustrative of the sad effects of this sort of meddlesome midwifery:

Mrs. R., aged 22 years, married; complains of inability to pass her water in the natural way, and says it runs from her nearly all the time through the front passage. "How long, madam, have you been married?" "Just twenty-six months, sir." "Were you a healthy woman before your marriage?" "Yes, sir; I never had a day's sickness, thank God!" "You have had a child, have you not?" "Yes, sir." "When was it born?" "Fifteen months ago, sir." "How long were you in labor?" "Three days, sir." "Was your labor severe?" "No, sir, but it was lingering." "Had you any one to attend you?" "Yes, sir, there were two doctors with me." "Was your child born alive?" "Oh! no, sir; the poor little thing was all bruised, and its head was a good deal injured." "Why so, madam?" "The doctors did it, sir, with the instruments." "Then you were delivered with instruments, were you?" "Yes, sir, indeed I was, and a poor sufferer have I been ever since!" "No matter, my good woman, do not deplore the past; you have been cruelly wronged, but we will

endeavor to do something for you; at all events we will make you more comfortable." "Thank you, sir." "Before your delivery had you any trouble with your water?" "None in the world, sir." "How long after the birth of your child did you experience trouble in this way?" "Since the birth of my child, sir, my water has always troubled me. It runs from me and I can not help it." "Did you call the attention of the doctors to this circumstance?" "No, sir, for they never came near me after I was delivered." "Then, madam, they did not do their duty." "Indeed they did not, sir." "How long was it after the birth of your child that you left your bed?" "I could not go about, sir, for nearly six months." "Have you had your courses since your confinement?" "Only once, sir, about two months ago, and I thought I would have died from the forcing pains I had." "Did the usual quantity pass from you?" "No, sir, a very little indeed."

This case, gentlemen, exhibits another of the many instances of professional cruelty more or less frequently occurring in this populous city; and it is indeed necessary that something should be done to arrest the reckless temerity of men calling themselves physicians, who, if we are to judge them by their acts, place a very insignificant estimate on human life. But the melancholy feature of the whole business is, that these assaults on health and life are made under the protection of a diploma, and therefore perfectly within record. No! a diploma, though it may serve the purposes of the holder, is insufficient to justify the moral wrong of the sufferings, the details of which we have just narrated. A diploma without knowledge is a curse to its possessor, and a fearful instrument of destruction to the community. With knowledge, too, must be conjoined a refined morality based upon that principle—"*Do unto others as you would wish others to do unto you.*"

This poor woman, whose health was her only capital, whose daily bread was the product of her daily labor, has become involved, either through ignorance or unpardonable carelessness, in a complication of maladies which, even if measureably relieved, will cause her more or less distress during her entire existence. The question which naturally presents itself to the mind in reviewing the serious affections of the patient, is this: What has produced this state of things, and could it by a proper exercise of judgment have been avoided? She was delivered with instruments, and to their unskillful and unnecessary employment was to be referred all her present difficulties. There is no evidence before us that the use of instruments was at all indicated. The patient observed that "her labor was not severe," it was "only lingering."

She then has fallen a victim to that "hot haste" which, unfortunately, too often prevails in the lying-in chamber; to that undying fondness which some men cherish for operative midwifery.

Here is another case, page 573:

But a short while since, at the request of one of these truly good women, the Sisters of Mercy, I visited in a miserable hovel a poor

creature who had been attended in her confinement by a medical man who found it necessary to call to his aid two of his professional friends.

The woman had been in labor only six hours, when it was deemed necessary to resort to the forceps. She was delivered of a dead child, with the right *os parietale* crushed, and the corresponding eye forced out of its socket. The unhappy mother had only been delivered four hours when I saw her. She was at the time vomiting; her face pale and haggard, with a pulse extremely rapid. I requested the physicians to be sent for, but they could not be found. On examination, I detected a rupture of the neck of the uterus, and the poor creature was soon released from her sufferings, having expired just fourteen hours from the time her labor commenced.

It seems to be a common thing for these operators to run away as soon as they have nearly killed the mother and child. They don't come back. They can't be found.

We hope that authors and lecturers, such as BEDFORD—that medical journals all over the country—that medical societies everywhere, will enter their protests, and continue their protests, against the murderous as well as meddlesome midwifery which seems to be the fashion of the day. Women were safe in those old times when their diseases were simply called *diseases of women;* but since a new name has been found for them—since *gynæcology* has been invented—the sex seems to be in danger of annihilation. L.

DIE OPTISCHEN FEHLER DES AUGES, mit ihren Folgen Asthenopie und Strabismus. Von JOHN ZACHARIAH LAWRENCE, F.R.C.S. *Aus dem Englischen ins Deutsche übersetzt von Dr. August Karst.* Kreutznach: R. Voigtländer. 1868. 8vo., pp. 163.

This is a translation of Mr. LAWRENCE'S "Optical Defects of the Eye," published in London, in 1865, with a few additions, the most important of which is an article extracted from the "Annales d'Oculistique," describing NACHET and JUVAL'S optometer for measuring astigmatism. The original work of 112 pages, 8vo., consists of a couple of elementary lectures on optics, followed by 80 pages based for the most part upon DONDERS' great work, "On the Anomalies of Accommodation and Refraction of the Eye." The attempt to treat of the whole subject of "the optical defects of the eye" in eighty pages would be rather startling, had not the same thing been done so many times in even less space in text-books on physics. The author

tells us *something* about myopia, hypermetropia, astigmatism, presbyopia, paralysis of accommodotion, asthenopia, and the connection between convergent strabismus and hypermetropia, but in his selection of *what* to tell us in the little space he has taken for the purpose, he has certainly not displayed that appreciation of the relative importance of things which a due regard for economy would seem to demand. Whatever success the book may have had in its original form must be attributed more to an awakening interest in ophthalmology than to any especial merit of its own. A German translation was scarcely needed.

J. G.

ATLAS OF VENEREAL DISEASES. By A. CULLERIER, Surgeon to the Hôpital du Midi, etc., etc. Translated from the French, with notes and additions, by FREEMAN J. BUMSTEAD, M.D., Professor of Venereal Diseases in the College of Physicians and Surgeons, New York, etc. With about 150 beautifully colored figures on 26 plates. Parts I, II, and III. Philad.: Henry C. Lea. 1868. 4to., pp. 224. Price, per part, $3 00.—(To be complete in five parts.)

[For sale by the St. Louis Book and News Co.]

The contrast between this beautiful American edition in large quarto size and the "chunky" little octavo volume of the French original is very great indeed. It may be an individual weakness of our own; but we have a decided preference for an open page and a generous allowance of paper; the compressed page and narrow margin of very many of the scientific works published in France convey, to our eye at least, the impression of a contractedness which is not a characteristic of their contents. Above all, this want of harmony becomes apparent in illustrated works, such as the two editions of CULLERIER before us, of which we consider the American specimen in infinitely better taste.

We design, at present, no review of the work itself, but will merely note the excellent manner in which it has been reproduced in this edition under the hands of Prof. BUMSTEAD. The rendering of the text into English is tolerably free, yet strictly true to the meaning of the author; the style is far better than we are accustomed to find or have a right to expect in translations generally. The additions of the translator are interspersed in the text,—inclosed in brackets and marked by his initials,—and will be found very much less obtrusive and annoying in this

arrangement, than the notes of the "American editor" in many reprints we are familiar with. They refer, for the most part, to points on which Prof. BUMSTEAD differs from CULLERIER, and are written in a very moderate and strictly scientific tone, which is the more laudable in view of the known antagonism of the two authors on the question of duality.—The least accurate part of the translation is the title, rendering "*Précis Iconographique*" by "Atlas," which makes the title-page read rather curiously: an atlas, *translated* from the French, etc.

Not the least commendable feature of Mr. Lea's edition, however, is the successful "translation" of the original colored steel-engravings into American lithographs. Considering the essential difference in the mode of execution, we are surprised at the truthful reproduction of the figures. As illustrations, these lithographs are inferior to the originals especially in the shading and tone of color—which, in the latter, are more natural; but they are, nevertheless, most creditable works of art.

The book is to be completed in five parts, three of which are now before us. They comprise the long introduction on the history and nature of syphilis, the first part (blennorrhagia), and the first and a portion of the second chapters of the second part (soft-chancre, indurated chancre). These are illustrated by fourteen plates of figures, corresponding to plates 1—43 of the original. G. B.

KLINIK DER OHRENKRANKHEITEN. Ein Handbuch für Studirende und Aerzte. Von Dr. S. Moos, pract. Arzt u. Docent an der Univ. in Heidelberg. Mit 26 Holzschnitten. Wien: W. Braumüller, 1866. 8vo., pp. 348.

[*Clinic of Diseases of the Ear.* A Handbook for Students and Physicians. By Dr. S. Moos. With 26 wood-cuts. Vienna. 1866.]

Among the branches of medicine developed within the last decennia by the prevailing tendency to specialization and division of labor, there is scarcely one which had been more utterly neglected, and which of late has been so rapidly advanced by a small corps of industrious investigators, as aural medicine. The improved methods of physical diagnosis have achieved the same triumphs and yielded the same successful indications for treatment in diseases of the ear as in those of other regions. Above all, the higher development of pathological anatomy has been

the means of bringing to light that information, in regard to aural affections, the want of which was the main cause of the obscurity of this subject. Such men as WILDE, TOYNBEE, TRÖLTSCH, VOLTOLINI, POLITZER, and others, have lifted the veil, however, and the profession is indebted to them for the accessible position in which the object of their studies has now been placed. To this array of bright names, that of Dr. Moos, the lecturer on diseases of the ear at Heidelberg, the translator of TOYNBEE, may unhesitatingly be added.

There is no lack of good text-books on the subject now. The treatises of WILDE (and its German translation) RAU, TOYNBEE (with two American and one German editions), KRAMER, TRÖLTSCH (three German editions of his "Lectures" and an American translation by ROOSA, and his more recent treatise in Pitha and Billroth's System of Surgery),—these would seem to supply the demand of their decennium. To enter the lists with such formidable competitors would seem to be an audacious enterprise. But when we compare the crowded literature on other branches equally new or progressive, on ophthalmic and uterine and laryngeal surgery, etc., there will appear to be room for Dr. Moos' book also; and an examination of its contents confirms this opinion.

The author's intention has been chiefly to publish his own observations, more particularly in so far as they convey new information, and contribute fresh material toward the decision of disputed points. Although he has chosen the form of a systematic manual, this purpose remains apparent in a slight lack of uniformity imparted to the contents by the space devoted to those chapters in which the experience of the author has been particularly large.

The volume begins with a "general part," embracing the physical examination of the ear. The directions given are brief and clear. We note that in discussing the examination of the internal ear, the author attributes more value to the signs derived frm the conduction of sound through the osseous parts, than either TOYNBEE or TRÖLTSCH, although he does not follow ERHARD'S enthusiastic opinion, that we are able by its means to discriminate between affections of the tympanum and labyrinth. He dilates upon the recent investigations of LUCAE and POLITZER.

The "special part" is subdivided into three sections, the first

of which treats of the diseases of the external ear, the second of the pathological changes of the membrana tympani and diseases of the middle ear, the third of the derangements of the nervous apparatus.

Three chapters of the second section (51 pages) are devoted to the anomalies in transparency and color, the calcareous deposits, perforations and cicatrices of the membrana tympani, etc. This appears to be the favorite study of the author. He has had opportunity to observe thirty cases of calcareous deposit in the membrane, twenty-six of which are reported with very good wood-cut illustrations. This lesion seems to be of tolerably frequent occurrence, yet its etiological and prognostic bearings still are mooted points. "Thus v. TRÖLTSCH says that he has met with the deposits of lime mostly in cases of a high degree of deafness; and POLITZER found them mostly in persons who had previously suffered from suppurative inflammations of the tympanic cavity." Dr. MOOS' observations led to results somewhat at variance with these opinions: the deposits were not always associated with great difficulty of hearing, especially did not exclude a fair power of understanding speech, even when very extensive; moreover, they were almost as frequently the results of non-suppurative, simple catarrhal inflammations of the cavity of the tympanum, as of suppurative inflammation.

The author speaks of "POLITZER'S method" * with the utmost approval, both as a diagnostic means, and as a remedial agent in obstructions of the Eustachian tube and in purulent catarrh of the tympanic cavity. "This procedure, which now (1866) is known for almost two years, has received the greatest approval from all sides, and it is not asserting too much to assume that, in these two years, hearing has been restored to thousands of ear patients, especially youthful individuals, by the use of POLITZER'S method alone." "The effect in many cases, even of occlusion of the tube of long standing, is wonderful." It will not altogether supersede the use of the catheter, but it has rendered it superfluous in the great majority of cases where hitherto catheterism was the only remedy.

The chapter on chronic catarrh of the tympanic cavity is preceded by a tabular analysis of 100 cases. This, and the chapters

* Forcing air into the nasal cavity during the act of swallowing,—a re-inforcement of VALSALVA'S experiment.

on acute and chronic suppurative inflammations of the middle ear, are very complete. They occupy nearly 120 pages; and more attention has been paid to the treatment of these diseases, it would seem, than the author bestows upon that of most other affections in this volume. This portion embraces also the consideration of perforations of the membrana, and TOYNBEE's artificial membrana tympani, with its modifications by LUCAE and POLITZER.

Next follows a chapter on polypi of the ear, for the removal of which the author recommends the wire-snare of WILDE, vindicating its superiority over all other instruments invented for this purpose, including that of BONNAFONT and the "lever-ring forceps" of TOYNBEE.

The remaining 42 pages are occupied by the section on diseases of the labyrinth, the derangements of hearing caused by cerebral lesions, and deaf-mutism; concluding with a tabular statement of the condition of the ear found in 65 deaf-mutes, by post-mortem examination, collected from various authors.

The lack of anatomical and physiological introductions to the several subjects, and the fact that too much preparatory knowledge on the part of the student is taken for granted, are circumstances detracting from the utility of this work to the beginner. On the other hand it is indispensable to those who make the study of diseases of the ear a specialty. And to those general practitioners of medicine also, who are at all familiar with the subject, Dr. MOOS' work can not fail to be a useful and desirable manual.

The typographical execution is superior, but we are surprised at the number of typographical errors which is not half told in the list of errata given. The wood-cuts are very good indeed; they are 40 in number, instead of 26, as the title page has it.

G. B.

Extracts from Current Medical Literature.

OBSTETRICS.—DISEASES OF WOMEN.

1.—*The Decidua Menstrualis.* By Dr. HAUSMANN.

[*Brit. & For. Chir.-Med. Rev.*, April, 1868, from *Monatsschr. f. Geburtsk.*]

Dr. HAUSMANN gives an historical review of the researches hitherto made on this subject. He then explains the conclusion he has arrived at after examination of many specimens and histories, for which he is indebted to Profs. MARTIN and VIRCHOW. He says he has never observed an entire cast of the uterine cavity, the membranes having always been expelled in three or more pieces. The membranes were from one to four centimètres long, of variable width, and usually thinner at the margin of transition from the anterior to the posterior wall of the cavity, at times only hanging together by a few shreds. The inner wall showed a smooth surface, and upon more minute examination several crossing forks, already described by FOLLIN, enclosing in their midst, when recent, deeply red areas. These last, as well as partially translucent spots, depend upon an unequal thickness of the detached mucous membrane, as may be easily seen by sections made through these spots. Within these larger crossings the inner surface shows a number of punctate, small openings, which are the expanded mouths of the uterine glands, an appearance which made HUNTER call the membrane the *membrana cribrosa*. The outer surface was rough from hanging shreds. The microscope made manifest the uterine glands, accompanied by capillary network; broad, rounded cells, mostly having a large nucleus and nucleolus, which sometimes was elongated and pointed at one or both ends, giving a spindle shape. With these cells were a few free nuclei; and near the outer surface was an abundant, loose, fibrous connective tissue.

As to the origin of this casting of the uterine mucous membrane, Dr. HAUSMANN contends that it is the result of impregnation. He disputes the statement that the membrane is shed every four weeks. He says it commonly occurs after intervals longer than ordinary; that it occurs only in married women, or in women exposed to sexual intercourse. He calls attention to the fact that women who before marriage never had anything of the kind begin to expel these membranes afterwards, and cites a case from TYLER SMITH of a patient who, whilst single, had been healthy, who from the date of her marriage to the death of her first husband had observed membranes of this nature at irregular intervals, who

again became free whilst a widow, and again discharged these membranes six months after a second marriage. Hence he concludes that these membranes are abortions of some days or weeks, the mucous membrane of the uterus converted into decidua being expelled, after the perishing or escape of the ovum. This occurs preferably at a menstrual epoch, and thus may favor the idea that it is a simple menstrual decidua; but often the interval is longer than four weeks. The membrane is expelled commonly within six to twenty-four hours after the beginning of the hæmorrhage, sometimes later, and generally after pains. There are probably various causes of the abortion, but probably the premature destruction of the embryo precedes it. The frequent catarrh of the uterine mucous membrane and chronic metritis associated with this condition are generally the consequence of it. The treatment is divided into that which is indicated for the abortion and into that proper for the disease. The most essential rule is abstinence from sexual relations for several months.

2.—*Delivery of the After-birth in cases of Abortion.* By Dr. GUENIOT.

[*Med. & Surg. Reporter*, Philad., Dec. 21, 1867, from *Bull. de Thérap.*]

Dr. GUENIOT observes, that among other differences between a miscarriage and a regular labor, it is noticeable that in the former the expulsion of the fœtus and detachment of the placenta begin to take place at the same time, instead of constituting two orders of phenomena essentially distinct, as in the latter case. Hence in abortion, hæmorrhage is associated with the uterine contractions, throughout their entire duration.

On the other hand, the *complete* separation of the placenta is tardy of accomplishment, since the adherences are relatively more solid during the first months of gestation, and the contracting power of the uterus little developed. Moreover, even when the placenta be entirely detached from the uterus, the length and firmness of the neck of the wound opposes unusual obstacles to the expulsion of the after-birth. In view of all these considerations, it is easy to see that the danger of miscarriage belongs, not to the movement of the expulsion of the fœtus, which is usually unaccompanied by any difficulty, but to the separation and expulsion of the placenta. During this period, the patient is exposed to accidents resulting either from hæmorrhage, or from retention and decomposition of the placenta mass. Putrid infection, metritis, anæmia, nervous exhaustion, shiverings, fever, vomiting, dysuria, and various neuralgias may be expected in this connection. Finally, uterine phlebitis and metastatic abscesses may complicate a miscarriage, as in an unfortunate patient observed by Dr. GUENIOT at the Maternité.

The therapeutic problem suggested by the consideration of these possibilities consists in determining the line of conduct required in different cases of miscarriages, to favor the complete expulsion of the placenta and its membranes, and to combat the various accidents which

may have been determined by their retention. The necessities of the case vary greatly, according to the period of gestation at which the miscarriage has taken place. During the first two months, if the placenta be not expelled together with the embryo, its spontaneous delivery is extremely slow, and the process may be prolonged two days, without entailing any danger upon the patient. Until, therefore, the period has elapsed, the physician is not called upon to interfere, unless in case of accident.

During the third and fourth month, the membranes are ordinarily ruptured at any early stage of the labor, before the placenta be completely detached, or the os sufficiently dilated. On this account, the placenta is expelled after the fœtus; but the limit of safety in the delay must be shortened to twenty-four hours. Finally, in the fifth and sixth months, so much greater facilities exist for the expulsion of the after-birth, that its retention must be considered abnormal if it last more than twelve hours for the fifth, or six for the sixth month.

The precision of these limits is of the utmost importance, as then it affords the physician the first indications for deciding whether to intervene with the resources of art, or permit nature to take its course.

The author then classifies abortion into five types.

1st. The abortion has taken place, the delivery of the placenta has not, or it is incomplete, and no accident has occurred.

2d. Same situation as the above, but complicated by accidents.

3d. Abortion is complete, but the physician is in doubt whether the placenta be expelled or not.

4th. Fœtus and placenta have both been expelled, but accidents have occurred claiming intervention.

5th. Finally, abortion has not yet occurred, but it is recognized to be inevitable.

In the first case, as soon as the time fixed for the normal expulsion of the placenta has been overpassed, the physician has reason to *certainly* anticipate accidents, even if they have not already occurred. Moreover, the divers methods of intervention will become difficult of employment with every moment of delay, consequently, the indications for prompt interference are sufficiently pressing. On the other hand, this interference is always accompanied by certain dangers, and the decision for action or inaction, must in each case be based on a special comparison between present inconveniences and future perils. It is certain, in all cases, that immunity from accident during several days retention of the placenta can only be observed when it has remained nearly completely adherent; as soon as it begins to separate, it is liable to putrefy.

The danger varies, moreover, according to the different periods already described. In the first, the small development of the uterine vessels saves the patient from the chance of dangerous hæmorrhage, and the small size of the placenta renders its putrefaction a matter of less consequence. Hence chills, fevers, a certain pallor of the face, diarrhœa and dryness of the tongue, are generally the greatest accidents to which the patient is

exposed. Consequently, in view of the various inconveniences of active intervention, it is better for the physician to restrain his efforts to vigilant surveillance, in all cases of retention of the placenta after abortion, occurring in the first two months of gestation.

During the second period of gestation, the hæmorrhage, though much more abundant, can still be readily mastered by means of the vaginal tampon. But, after expulsion of the fœtus, the os contracts promptly, and speedily opposes a serious obstacle to the natural or artificial delivery of the placenta. A considerable mass is retained to putrefy, and may occasion a mortal infection. Hence the indication is urgent to deliver the woman artificially, as soon as possible, after twenty-four hours have elasped without spontaneous delivery.

M. GUENIOT then reviews the various agents proposed for effecting this delivery. He rejects traction on the umbilical cord, on account of its fragility. He admits that the index finger may occasionally be employed, but it is necessary the uterine neck be sufficiently open to give free passage to the finger; that the vagina permit the entrance of the hand to the close vicinity of the os; finally, that it be possible to separate the placenta *en masse*.

The first condition is extremely rare a few hours after abortion, and never exists after several days. The realization of the second occasions great pain, and exposes the patient to contusions and lacerations. Finally, the third, the most important of all, is necessarily problematic. Hence the finger is to be regarded as a precarious resource. Pincers, curettes, hooks, are all more or less dangerous. Intra-uterine injections can only be employed with a return-current, which greatly diminishes their efficacy.

Having thus reviewed these various agents, M. GUENIOT excludes them all in favor of three, upon which he places immense reliance, the prepared sponge, the uterine dilator, and the ergot of rye.

The dilator, you know, consists of a small india-rubber bag, introduced into the uterine cavity in a collapsed form, and then filled out with warm water. This, in virtue of a continued irritation produced on the internal sphincter, provokes uterine contractions nearly inevitably at the end of several hours. The bag constitutes an artificial substitute for the natural membranes that have been prematurely ruptured, and its action imitates nature as closely as possible. It not only provokes uterine contractions, but mechanically enlarges the os, and, moreover, performs the office of a tampon in moderating the hæmorrhage. For this last purpose, however, the caoutchouc bag is no more infallible than the embryonic mass itself. M. GUENIOT considers the dilator one of the most precious means for provoking the delivery of the placenta.

Where the prepared sponge is inserted in the uterine neck, it is recommended to accompany it by a vaginal tampon, as better security against hæmorrhage.

Finally, ergot may be administered in doses of two grammes (thirty-two grains), and on M. GUENIOT'S testimony, is certain to determine

uterine contractions in from twelve to eighteen hours. If the action is not sufficiently marked after the first dose, sixty centigrammes more may be given, which generally determines a prompt separation of the placenta, and its expulsion through the os.

Sometimes, unfortunately, the ergot occasions a tetanic constriction of the neck and complete imprisonment of the placenta. This accident, however, rarely occurs during the first half of gestation. On the other hand, a uterus exhausted by long continued labor, is peculiarly liable to ergotic tetanus.

The accident must be combatted by baths, emollients, and narcotics. Since ergot alone does not prevent hæmorrhage, a tampon must always be at hand, to provide against this latter exigency.

M. GUENIOT ranks the foregoing agents in the order in which I have specified them, and considers the use of the finger, or of intra-uterine injections, as ultimate resources to be appealed to only when all others fail.

In abortions of the fifth and sixth month, the accidents provoked by the retention of the placenta are nearly as formidable as at term. In this case, the dilatability of the vagina and of the os enables the placenta to be directly extracted by the hand, and this proceeding is indicated as soon as the delay of twelve or six hours has been overpassed.

In the second class referred to above, where accidents exist, these demand attention before everything else. Whether the normal delay be accomplished or not, it is incumbent on the physician to intervene in the artificial extraction of the placenta as soon as abundant hæmorrhage or signs of purulent injection are manifested.

If the placenta be only partly engorged in the os, and its principal portion be retained above the internal sphincter, it is better to have recourse to ergot than to traction, which may tear the mass. In case of hæmorrhage, ergot should be employed conjointly with the tampon. In case of purulent infection, ergot and intra-uterine injections, with internal tonics.

Ergot should not be employed if the purulent infection dates from several days, as, in that case, the uterus may be considered to be stupefied and paralyzed.

In the third case, the doubt concerning the expulsion of the placenta will be removed if accidents occur, or if after prolonged waiting and repeated examinations, there is no accident.

In the fourth case, since by the supposition the accidents are supposed to exist *after* the expulsion of the placenta, this treatment becomes a problem of general therapeutics.

In the fifth case, as soon as the miscarriage is recognized to be inevitable, the physician should endeavor to favor its accomplishment.

3.—*On Expression of the Fœtus.* By Dr. KRISTELLER.

[*Brit. & For. Med.-Chir. Rev.*, Oct., 1867, from *Monats. f. Geburtsk.*]

Dr. KRISTELLER, quoting a paper by v. RITGEN on "Delivery by Pressure instead of by Extraction," advocates the use of this method in

certain cases of inaction of the uterus. He says it has the advantage over extraction of not requiring the premature rupture of the membranes, of not disturbing the flexion of the fœtal-chin upon breast, or limbs upon trunk, or of bringing the uterus into correct relation with the axis of the pelvic brim. It is executed by placing the patient on her back, the operator spreading his hands upon the uterus, so that the palms shall be able to compress the fundus downwards, whilst the thumbs and fingers shall compress the uterus on the sides. The pressure is made to resemble the course of a natural contraction in its progress or periodicity. It may require to be repeated fifteen or twenty times. If more than this is necessary the case is unfit for the operation. Expression, or "squeezing out," of course, will often excite uterine action, which will help the operator. Expression is also most useful in aid of extraction, as when the forceps is used. KRISTELLER relates cases in proof of the value of his method.

This method has also been warmly advocated by Dr. PLOSS. (cf. *Med.-Chir. Rundschau*, Vienna, Oct., 1867.)

4.—*Ovariotomy.*

Prof. NUSSBAUM, of Munich, in the *Aerztl. Intelligenz-Blatt* of Dec. 9, 1867, gives a statistical report of all the ovariotomies performed by him, numbering 34. The first three of these were made in 1861, and ended fatally, so that the author was deterred from operating, regarding recovery impossible, and believing in the correctness of DIEFFENBACH'S saying, that ovariotomy was murder. Having witnessed, in 1862, the success which attended the operation in England, by the employment of the utmost care and cleanliness and a different treatment of the pedicle, he again resumed the operation in 1863. The deaths among the 34 cases amounted to 16, the number of cures being 18, or 53 percent.* [We think the author would be justified in excluding from this calculation the three fatal cases of 1861, as they were not executed by the modern methods, and are not therefore strictly comparable with the others. There would then be 18 recoveries in 31 cases, or 58 percent.]

The left ovary was found affected 19 times, the right 15 times. In 17 cases there were strong adhesions, and of these only 6 recovered: 35 percent; in 12, there were but slight adhesions, 9 recoveries: 75 percent; in 5 no adhesions were found, 3 recovered: 60 percent. This would tend to show that slight adhesions do not affect the result of the case, whereas considerable agglutinations seriously impair the chances of success.

* Erroneously given as 56 percent in the report.—[ED.]

Dr. NUSSBAUM advocates the operation, as being justified in all cases where the tumor is imperiling life by its rapid growth, or by seriously affecting the general health of the patient. He remarks that the indubitable conclusion from these statistics is that of the 34 serious cases of disease, 18 recovered and are in perfect health, whereas, without an operation, only a few of them would still continue their miserable existence.

5.—*Uterine Injections by the Double Current.* By Dr. AVRARD, of Rochelle.

[*Gazette Médicale de Paris*, Jan. 18, 1868, p. 36.]

Dr. AVRARD, of Rochelle, presented a paper on this subject to the Academy of Medicine of Paris, January 7, 1868. The details of the mechanism that he employs are not given in the *Gazette Médicale*, but it can be gathered from the discussion that beside the injection pipe, there is a second tube that permits the unimpeded reflux of the fluid thrown into the uterus.

"With the double current I have, at a single sitting, injected as much as twenty-one quarts of water; I have used the liquid perchloride of iron at 30°, equal parts; I have used the sulphate of zinc up to one part in sixty, and I have never had serious accidents. Since I have been practicing intra-uterine injections in Paris, I have had two cases of indigestion. * * * These two accidents should be ascribed not to the method but to myself, because I was unable to refuse my colleagues an examination inopportune because of the brief interval since a meal; this is an accident that I have often observed, and always without troublesome consequences, except pains in the hypogastrium for a few hours. Beside, for the production of the indigestion it is necessary that the exploratory catheterism, that is to say the catheterism performed the first time on a patient in whose case one has been called to make a diagnosis, should be very painful. An ordinary injection even of several quarts, and of a quite strongly concentrated solution, does not commonly produce such effects. * * * * * *

"*Performed by the method of the double current*,—which I have been using for twenty-two years, and of which all the difficulties are familiar to me,—*the intra-uterine injections are entirely harmless*, provided, as is well understood, that pre-

cautions are taken, which it would be too long to indicate here, but which every wise and prudent physician will divine without difficulty. * * * * * * * I will only say that the remedial agents that I employ are: water, pure or serving as vehicle, seldom cold; the sulphates of copper, of alumina, of zinc; the crystallized nitrate of silver; glycerine, pure or in combination; tannin, in solution or by insufflation, with injection of pure water afterward; alcohol, the perchloride of iron and the tincture of iodine. These various substances are used in solutions more or less concentrated, and at temperatures that vary according to the existing state of the malady, its duration, its kind, its class, its complications, the degree of nervous irritability of the patient, her idiosyncrasy, whether diathetic or not, her organic resistance to pain, her social position, allowing or not allowing her to rest, etc.

"As you say in closing, 'the use of the sound with double current eliminates one source of dangers,' and if the *Gazette* will kindly open its columns to me, I will tell its readers 'what is the efficaciousness in the several diseases of the womb of the intra-uterine injections.' With them, no more of the cautery actual or potential, whatever be the malady, affection, or infirmity that the uterus presents. * * No more of the intra-uterine replacer, powerful cause of numerous and almost always grave accidents; no more of the dilator of the internal orifice by sponge tent, laminaria, or any other substance acting mechanically on the most sensitive part of the organ; finally, and above all, never *section of the uterus!*"

[*Charles E. Briggs.*]

6.—*Female Surgery.* Extract from a letter from Dr. J. C. NOTT, Baltimore, to Prof. Chaillé, of New Orleans.

[*New Orleans Journal of Medicine*, January, 1868.]

A very cursory glance at the writings of such leading authorities as SIMPSON, SIMS, BAKER BROWN, SPENCER WELLS, and a few others, to say nothing of French and German writers, will show that very wide differences of opinion exist, and many practical points of great interest are still *sub judice*, and that great caution should be used in accepting the decisions of best authorities. Simpson's intra-uterine pessary, for example, is now generally condemned; some of his cutting operations about the uterus are also condemned by SIMS, BAKER BROWN, and others; and an evident reaction is now going on against the confident assertions

of SIMS. The fact is, the time during which uterine surgery has had its birth and growth is so short, that our experience has not been sufficiently mature to establish fixed principles. Many of the operations alluded to give *immediate* relief, and even a year or two passes before we discover that new troubles follow the operations, and that some change, from the contraction of cicatrices or other causes, leaves the patient in worse condition than before the operation.

In confirmation of this I will take the liberty of quoting from some conversations I had with Dr. EMMET in my recent visit to his hospitals. Dr. EMMET may now be considered as one of the first living authorities; for few men anywhere have had such a wide field of observation, and he seems to be endowed by nature with those peculiar qualities of head and hand that fit him particularly for the special department of science he has selected. Having great confidence in the results of his large experience, I noted down the following conclusions:

1. He never resorts to the lateral incisions of Dr. SIMS for the relief of dysmenorrhœa, sterility, engorgement of the uterus, or anything else; for the reason that after the bilateral incisions the two flaps are apt to flare or open out, and to leave an unhealthy surface which often leads to other unpleasant consequences.

2d. He does not *amputate* the elongated cervix for dysmenorrhœa or sterility in those cases in which Dr. SIMS usually recommends it, but only in cases of very extreme abnormal elongation.

Instead of amputation, or bilateral incision in all the above cases, he recommends as sufficient, an incision *backwards* in the cervix, extending from the os nearly up to the posterior reflexion of the vagina. This answers all the ends that can be reached by incisions—it heals up sound and well, and does not leave the os with that *hog nose* expansion above alluded to.

3d. It is in cases of anteflexion especially that he recommends this *posterior* incision of the cervix, and instead of attempting to straighten the channel by continuing the posterior incision on through the os internum posteriorly, after making his *posterior* incision through the cervix, he introduces a blunt-pointed knife and divides the *internal os* by making his incision *forwards* in the concave part of the flexure nearest the pubes. He contends that the channel in this way is better opened, and remains more permanently so, than where the incision is made in the opposite direction as recommended by SIMS. I saw him perform this operation in the "Woman's Hospital" with his accustomed dexterity.

While he considers this operation of great value in ante-flexion, he asserts, that a similar incision in the opposite direction for *retroflexion*, is worse than useless. There is *no cutting operation*, he thinks, which can cure retroflexion. All that can be done, is to replace the organ frequently, keep the patient quiet, and resort to such remedies as relieve local engorgement, or other uterine disease, and at the same time attend to the general health. In some cases a pessary is useful.

There are several remedies on which he lays much stress: 1st. Injections, not of tepid but *hot* water, freely and frequently into the vagina—a gallon at a time. He says it relieves greatly congestion of the uterus, improves the condition of the vagina and gives tone and contractile power to it. This remedy he dwells much upon. Cold water injections into the vagina, the doctor says, do great harm, produce neuralgia, uterine pains, etc. 2d. When *granular* erosions, or fungoid granulations exist about the cervix, he says they always exist *within* the uterus, and a favorite remedy for this condition is the introduction of a flexible silver probe, wrapped at the extremity with a little cotton, and dipped in Churchill's tincture of iodine, which is a very concentrated preparation. The probe thus armed is passed up to the fundus and moved freely about. This is done two or three times a week. Sometimes he uses the nitrate of silver, twenty to forty grains to the ounce, but prefers the iodine. 3d. In engorgement of the cervix uteri, and in those cases where it is covered over by disease of the follicles, looking like miliary tubercles, he vesicates the surface by brushing it over with Nichols' acetic acid solution of cantharadin. This should be carefully managed, so as not to get on the vaginal surface; and then the part should be covered with the cotton glycerole. This treatment he says is very potent in relieving engorgements and indurations of the cervix. In those granular erosions, or granulations, where they are within view, he speaks in strong terms of the beneficial effects of chromic acid and water in equal parts. So much for medication.

4th. Whenever amputation of the cervix *does* become necessary, he does not do it with the ecraseur, or any instrument which leaves the stump to *heal by granulation;* but invariably treats it just as he would an amputation of leg or arm—he draws the mucous membrane over the cut surface, like skin flaps, from before and behind, and fixes the edges together with silver sutures, after the manner recommended by SIMS, thus healing it up in a few days by the first intention. His reasons for doing so are his own. He says that where the cervix is allowed to heal by granulation, or a cicatrix is allowed in any way to form over it, the cicatrix contracts, the os is drawn up, and a *neuralgic* condition of the cervix ensues, from the constriction upon the nerves. This formation of a cicatrix is a leading objection to many of the cutting operations about the cervix. A cicatrix on the cervix, whether from knife, caustics, or ulcer, is apt to be followed by neuralgic pains, like those sometimes seen in stumps, and to relieve them he often peels off the cicatrix with scissors and draws the surrounding mucous membrane over with silver sutures. He always uses scissors instead of the knife, because there is less bleeding.

MATERIA MEDICA AND THERAPEUTICS—TOXICOLOGY.

1.—*Use of Counter-Irritants.* By Prof. HEBRA, Vienna.

[*Edinb. Med. Journal*, Nov., 1867, from *Allg. Wiener med. Zeitung:* in *Amer. Journ. Med. Sciences*, April, 1868.]

Prof. Hebra, the celebrated dermatologist, declares his opposition to the use of counter-irritants (revulsives), which form so large a part of ordinary medical practice. He professes to show that the theory by which their use was originally suggested and is now maintained, is erroneous; and he brings forward clinical and experimental facts and arguments to demonstrate the evils which result from the practice. Physicians were, he maintains, led to adopt counter-irritants for the cure of internal diseases, by observing the alterations and apparent antagonism of cutaneous affections and internal lesions. When, for example, a patient, the subject of a skin disease (as psoriasis), was attacked by fever, the chronic cutaneous eruption was observed to fade and disappear while the febrile state lasted, but reappeared during convalescence. Again, in exanthematous fevers the febrile symptoms often subside on the appearance of the specific eruption; and, moreover, the eruption continues fully out only under a favorable condition of the internal affection; while, on the contrary, if the internal symptoms are aggravated, the cutaneous eruption diminishes, and, before a fatal issue, becomes altogether invisible. Hence the popular idea among physicians and the laity, that the suppression or metastasis of the cutaneous affection is the cause of the fatal issue of the general disease. But these opinions are erroneous, for the chronic skin disease does not vanish first, to be replaced by the fever; but, on the contrary, the dermatosis only begins to fade after a prolonged continuance of an intense febrile state. In like manner, in every general disease of great intensity and prolonged duration, the anæmia which supervenes is first noticed on the skin, and hence the fading and disappearance of red eruptions in these cases, since even syncope will cause their temporary vanishing. Another erroneous opinion, prevalent from ancient times to the present day, which probably lent support to the use of counter-irritants, was the idea that every disease consisted of something material, which attacked sometimes one part, sometimes another, and which it was the physician's chief aim to eliminate; hence the terms *materia peccans*, acrimonies of the blood, acids, phlegm, black and yellow bile, etc. These notions, in spite of modern pathology, still retain their influence on practice. It is, however, certain, that we can not judge of the use of remedies on such grounds, but only by a knowledge of the action of the remedy on the healthy body on the one hand, and an acquaintance with the natural course of disease, uninfluenced by remedies, on the other. This was first stated by GIDEON HARVEY, in his work, "Ars Curandi Morbos Expectatione, Amstelodami, 1695," where he says boldly that "it would be proper to write on the

patient's prescription only the word, ***Expecta.***" But this expectant method seemed a neglect too cruel to be practiced in dangerous diseases, until HAHNEMANN showed that fevers and inflammations were often as successfully treated by decillionths as by the Hippocratic apparatus of venesection and counter-irritation; whereupon physicians and clinical professors, convinced of the real nothingness of decillionths, resorted to the treatment of febrile and non-febrile diseases by the pure expectant method, and were thus enabled to study accurately the natural course of disease. Wherever their results were as successful as the older heroic practice pursued "lege artis," it was obvious that the latter was at least unnecessary, that the cure was done by nature in spite of heroic remedies: "Natura et morbum et medicum vincit." Nevertheless, some practitioners, who admit all this in regard to certain diseases, plead for counter-irritants to the skin in the class of affections called *rheumatism*, believing that the peripheral irritation will relieve the deeper seated parts. But how often do these remedies, from simple rubefacients up to the "horrible invention of the moxa," fail; so that where cases improve, it is rather *during* than *by* the treatment. An impartial examination would show that as many rheumatic affections get well under homœopathy, hydropathy, electricity, or the plasters of quacks, as under counter-irritants.

Moreover, the excuse that it is necessary to do something to relieve suffering, and that blisters, etc., do no harm, is incorrect, as they often leave indelible marks on the skin, while hot and cold douches, lotions, liniments, and plasters do not, and yet afford as much relief. In diseases of the eye, also, the applications of leeches and blisters, which were formerly always used, are now condemned by many ophthalmologists. Clinical experiment in HEBRA's practice gave similar evidence. Suppose on the thigh of a patient an eczema rubrum of the size of a crown piece; place at two inches distance on one side a blister of the same size, on the opposite side a sinapism, and at the two other poles, tartar emetic ointment and croton oil. The artificial irritants will produce here bullæ and redness, there pustules and vesicles, but without at all diminishing the intensity of the central eczema. On the contrary, the latter often spreads to and includes the irritated surfaces, and becomes larger than before. Now, if in the same organ or tissue (the skin) a peripheral irritant can not draw away and dispel a central affection of a similar kind, how can cutaneous irritation be expected to dissipate the morbid condition of the pleura, lungs, brain, peritoneum, eyes, sheaths of nerves, etc? What new path do revulsives open up for the elimination of morbid products deposited in these cavities and organs? But cutaneous irritants, continues Prof. HEBRA, are not only useless, but often do harm, and their pernicious effects may either last long, or even put life in peril. It is, for instance, a well-known fact that the exanthemata, smallpox, measles, and scarlet fever, are more fatal in proportion to the intensity and amount of the cutaneous eruption. And experience teaches that the eruption is more abundant on parts of skin where an irritation or dermatosis (*e. g.*,

an eczema) previously existed. A sinapism, applied to the chest on account of dyspnœa, will cause a larger amount of pocks to appear there, and if there were a counter-irritant large enough to cover the entire integument, a simple varicella might be converted into a fatal variola. Indeed, even the irritation of cold water in excess, applied hydropathically around an eczema, will cause its extension over the whole skin; and often the abuse of acaricidal remedies—*e. g.*, the sulphur fumigations in vogue a few years ago—produces a horrible eczema over the whole external surface; often hot baths, pushed by some as an infallible remedy, diffuse instead of arresting a skin disease. The tartar emetic ointment, applied to the scalp in chronic hydrocephalus, causes no diminution of the effusion, while the pustular eruption is very painful, and may give rise to purulent absorption and erysipelas. A blister behind the ear is often the starting point of an eczema which affects the concha, the face, and hairy scalp, and which under unsuitable treatment, may last for years, causing great pain, as HEBRA has often seen, without improving an ophthalmia in the least. Leech bites on the temples are followed by incurable white triangular cicatrices, which certainly are no ornament to a pretty face. The marks of cupping, too, on the neck and arms of women, are often a serious disfiguration. Issues in the arm to prevent relapses of ophthalmia, or of cerebral congestions, or as derivatives from skin diseases, are not only useless for their intended purposes, but are very troublesome and frequently become the source of eczemas which spread over the surrounding integument. Even the discolorations which sinapisms leave behind, entail a lasting defect when applied to the neck or chest in females. Sometimes, indeed, a fatal result may be caused through the application of counter-irritants in typhoid fever, pneumonia, or smallpox, in consequence of the blistered surface being the seat of *cutaneous diphtheria*. The tinct. of arnica, introduced by homœopathists, if diluted, as they use it, is harmless; but if applied in a concentrated form, it causes redness and swelling of the skin, which in sensitive individuals develops into an eczema which spreads over a large surface and even the whole skin, and requires months to heal, confining the patient to bed for a longer period and a worse condition than the affection would have done for which the arnica was administered. Many of these artificial skin eruptions, bullous, vesicular, and pustular, do not cease when the counter-irritant which caused them is removed, but last for weeks, months or years. They can then no longer be distinguished from the idiopathic skin diseases, eczema, pemphigus, ecthyma, impetigo; and were the common theory true of the protective influence of counter-irritation, these skin diseases ought to afford a security against internal diseases in proportion to their amount. In that case, no persons should be healthier than the subjects of general chronic pemphigus, which should afford means of eliminating all kinds of peccant matters from the system. On the contrary, however, experience teaches that exudative eruptions covering large surfaces, especially in the form of vesicles, blebs, or pustles, not only exhibit no preservative power but the reverse, exerting a disastrous influence on the general

health, and becoming a frequent source of fatal issues. Lazarus was always regarded as a collection of all kinds of diseases, requiring providential intervention for his cure! Veterinary art exhibited similar prejudices till a few years ago. Diseased animals, especially horses, used to be tortured with all kinds of cauteries and corrosives; and farriers were in repute with the ignorant in proportion to the cruelty of their treatment. But thanks to the heads of the medical department in the Veterinary Institute of Vienna, such practice is now obsolete there, and results equally satisfactory are now obtained by the expectant method as were formerly got by those cruel manœuvres. Veterinarians, in this respect, according to HEBRA, might serve as a model for physicians. "It would be desirable," he says in conclusion, "that every physician, before applying a counter-irritant to his patient, should ask himself the question, whether, if he were ill, he would treat himself in the same way? Indeed, it has rarely happened to me to see physicians who would have subjected their own persons to the application of issues, moxas, and setons. Yet, let not the physician forget the commandment, 'Do not that to others which you would not have done to yourself,' when at the bedside of his patient, he finds other remedies unavailing, and is tempted to have recourse to epispastics as his last resort. He ought always to remember that his mission is to relieve pain, and wherever his attempts to do so fail in spite of all his efforts, he can console himself with the assurance that he has at least caused no superfluous suffering."

2.—*The Physiological and Therapeutic Action of Bromide of Potassium.*

[*Boston Med. and Surg. Journ.*, May 21, 1868.]

We give an abstract of a review in the *Gazette des Hopitaux* of a recent work on this subject by MM. MARTIN-DAMOURETTE and HELVET. They were led to investigate the subject, clinically and by experiments on animals, from the effects of the salt observed in a patient affected with epilepsy.

In frogs, small doses produced sleepiness, sluggish respiration, slackening of the capillary circulation and of the pulsation of the heart. With larger doses there was pain at the point of injection, followed by muscular twitchings of the neighboring parts, and soon of the more distant, then enfeeblement of motion and of sensibility, gradual diminution of cardiac and capillary circulation, which proceeded to complete cessation and death.

The irritability of a muscle or of the heart is extinguished in one to three minutes by the contact of the bromide, solid or in solution. The motor-sensitive nerves lose their excitability by the direct contact of the bromide. The excitability of the spinal cord is also directly extinguished by it. The brain is also affected; a true anæsthetic sleep is produced like that by chloroform or ether. The respiratory movements are at first enfeebled, then abolished. The heart is paralyzed like all the other

muscles, but far from being especially affected, it resists longest in cases of regular bromism. The capillary circulation is constantly lessened. The lowering of temperature is constant. The urinary secretion is the only one much affected in animals; it is always increased.

The constipation which many patients present under treatment by the bromide shows a decrease of the intestinal secretion, and, moreover, lessened sensibility and contractility of the muscular layer of the intestines. The same effect is produced in the pharynx, œsophagus and bronchi, and in all the muscles of organic life. This explains the success of the bromide in spasm of those muscles (dysuria, dysphagia, whooping-cough, asthma, etc.). MM. MARTIN and PELVET have not seen marked salivation, angina, coryza, bronchorrhœa or lachrymation, and they think the authors who have reported these have used iodized bromide, or, at least, very large doses of bromide.

The anaphrodisiac property of the bromide resides chiefly, if not wholly, in its vaso-motor influence, which appears to be the only one common to all the more certain anaphrodisiacs.

The effects of the bromide are always direct, that is, due to the contact of this agent with the tissues, whether at the point of application, where it is carried by the circulation, or in the organs of elimination. The greater abundance of the bromide at the point of application and on the surfaces of elimination explains its more speedy and intense action in those parts. The specific character of the bromide consists in its affecting equally the functions of the sensitive and motor nerves, the brain and spinal cord, as well as the muscles. The sensitive nerves are blunted before the motor, these before the spinal cord, and the cord before the muscles. The heart alone often resists for some hours. From the commencement the capillary circulation and the pulsation of the heart are diminished, and the lowering of the temperature is dependent on this. The respiration is only influenced through the muscles. The secretions of the mucous membranes and the skin are reduced in proportion to the anæmia of their surfaces. The genital depression is due to the contraction of the afferent vessels of the corpus cavernosum.

The general sedative effect of the bromide on the nervous, muscular, and vascular systems, explains the success obtained by its employment in general or local neurosis or hyperæmia without the necessity of theorizing with regard to any special affinities.

3.—*Experiments on the Action of Quinia.* By Dr. C. BINZ, of Bonn.

[*Medical News*, May, 1868, from *Lancet*.]

Dr. BINZ communicates in a work* recently published the result of numerous experiments which throw a new light on some of the effects of quinia in disease. The salt used by him was not the sulphate, but the

* Experimentelle Untersuchungen ueber das Wesen der Chininwirkung. Von Dr. C. BINZ, Bonn. Mit 1 Tafel. Berlin. 1868.

hydrochlorate of quinia, on account of the greater solubility and the neutral reaction of the latter. Some of the experiments Dr. BINZ has performed in company with Dr. HERBST and Dr. SCHARRENBROICH, who are the authors of very interesting inaugural dissertations on the subject.

The first set of experiments relates to the action of quinia in preventing and arresting putrescence and fermentation. If to a drop of an infusion of hay containing animalcules in active movement $\frac{1}{80}$ part of quinia is added, the animalcules immediately die; the addition of $\frac{1}{500}$ part causes their death in a few minutes; and that of $\frac{1}{2,000}$ part still acts fatally within some hours. Morphia, strychnia, and creasote are in this respect much less powerful than quinia; and, amongst the non-caustic substances, the permanganate of potash alone seems to be superior to it. The punctiform monads, however, were brought much less under the influence of the alkaloid than the larger animalcules.

In order to examine the influence on the development of the lowest organisms, he experimented with infusions of the flour of various leguminous seeds exposed to light and heat; and here, again, ascertained that quinia possesses greater power to prevent the development of mould (*Penicillium glaucum*) than any of the other alkaloids, strychnia being nearest to it. Quinia had also greater power in preventing the formation of the yeast sporules in infusions of bread and meat than either common salt, sulphate of zinc, or arsenate of potash; while corrosive sublimate, however, exercised a twice greater power. The result of these experiments is quite in accordance with GIESELER'S observations that quinia exercises a more antiseptic influence on sloughing wounds than either creasote or chloride of lime; and Dr. BINZ points, also, to the well-known use of quinia in some forms of digestive derangements. Some instructive experiments show that the butyric-acid fermentation of milk and the vinous fermentation can likewise be postponed and checked by the addition of quinia, and it can scarcely be doubted that this is due to its poisonous action on the lowest organisms.

Although the presence of such organisms in the blood in zymotic diseases is not proved, yet the analogy between their phenomena and those of fermentation or zymosis is generally admitted, and the beneficial action of large doses of quinia in some of them is therefore of double interest.

Another series of the author's experiments is devoted to the antiphlogistic properties of quinia. The action of this substance on the lowest forms of protozoa, especially the *Vorticella campanula*, the *Actinophrys Eichhornii*, and the *Amœba diffluens*, led him to examine its influence on the peculiar amœboid movements of the white blood-globules, when he found these movements almost instantaneously arrested by the addition of $\frac{1}{1500}$ to $\frac{1}{2000}$ part of quinia. Strychnia, veratria, atropia, and several other substances examined, are much less powerful; but conia exceeds quinia in this respect. The most practical experiments, however, relate to the influence of quinia on the inflammation of the mesentery of the frog, when exposed to the air as in COHNHEIM'S experiment. The series of the

phenomena seems to have been, in general, that the small vessels and capillaries were first dilated, that the white blood-globules increased in the external part of the stream, that the white globules were seen in active amœboid motion, and that at a still later period, they passed through the stomata in the walls of the vessels into the surrounding tissues of the mesentery, where as pus-globules they formed, together with the plastic serum likewise escaping from the vessels, the well-known exudation masses. If in this stage a subcutaneous injection of quinia were made, the white blood-globules within the vessels became diminished in quantity, changed in appearance, and ceased to pass through the walls of the vessels; the whole process of inflammation was arrested. Similar experiments, varied in many ways, had always in the main, the result of either preventing the occurrence of inflammation, if quinia was introduced early enough, or of arresting inflammation, if it had been already set up before the injection of quinia was made.

Some experiments were devoted merely to the demonstration of the poisonous action of quinia on the white blood-globules in the living body; and this was clearly established by the local application of quinia on portions of the inflamed mesentery containing the exudated globules (pus-corpuscles); their movements were rapidly arrested, they became round and coarsely granular, and were later transformed into shapeless heaps of granules.

A third portion of Dr. BINZ's treatise contains clinical deductions, and forms one of the most interesting and suggestive contributions which we have received for many years.

4.—*On Strychnia hypodermically administered.* By CHARLES HUNTER, late Surgeon to the Royal Pimlico Dispensary.

[*Brit. and For. Med.-Chir. Review*, April, 1868.]

It is proposed in this communication, by the author, to point out the advantages and disadvantages of administering strychnia by the cellular tissue; and to indicate, as far as his practical experience of the use of that alkaloid has gone, what difference of action may be expected when it is subcutaneously given, from its usual effects when given by the mouth.

PEREIRA tells us that, "of all diseases for which nux vomica has been employed, in none has it been so successful as in paralysis, and it is deserving of notice that this is one of the few remedies whose discovery is not the result of mere chance, since FOUQUIER was led to its use by legitimate induction from observations of its physiological effects."*

Valuable as strychnia has proved as a nervine tonic, and more particularly in paralysis, there are some forms of nervous debility in which it is not only useless, but even injurious.

Very often strychnia has been given for a considerable length of time in chronic paralytic affections with entirely negative results. The ques-

* PEREIRA, "Materia Medica," vol. ii., p. 646.

tion may be asked why the strychnia has been thus inefficacious, and whether the inertness has been due to its administration by the mouth, or whether the lesion has been of some part of the cerebro-spinal system over which strychnia has no specific action?

Now I think I shall be able to prove that the mode by which this alkaloid is introduced into the system is one cause of difference of action. That such is the case with morphia and atropia, when introduced by different means into the system, I have long maintained, and am happy to see my view so thoroughly corroborated with regard to those particular alkaloids by the Hypodermic Committee of the Medical and Chirurgical Society, who have lately concluded their investigations.

And if morphine can be proved, when introduced into the cellular tissue, to have greater rapidity of action, intensity of effect, economy as to the amount required, certainty of action, and that certain unpleasant symptoms can be avoided by giving it by this means rather than by the mouth, and if the same holds good with respect to some other alkaloids, as I have shown that it does, it is not unreasonable to anticipate certain advantages from the administration of strychnia also by the cellular tissue.

It is somewhat curious, but there seems to me to be a great prejudice on the part of many medical men against, or fear of, the employment of strychnia subcutaneously, even with many who are constantly injecting morphia, a drug which requires quite as much care in its administration.

Certainly one has to study the dose which the constitution of the patient requires more carefully with strychnia than some other alkaloids, and to begin with a minimum rather than a maximum dose, for the effects from a large dose may be almost too rapidly generated to be subsequently beneficial. Some patients, moreover, are far more susceptible of strychnia thus administered than others, but such is also the case with morphia and opium. In one patient, a lady who was suffering from injury to the spine and severe nervous prostration, after a fall more than a year previously, I found the 1-90th of a grain of strychnia as large a dose as she could bear; on the other hand, most patients bear well the 1-36th of a grain, and some even the 1-24th.

That this *mode* of administering strychnia is more powerful than others is shown by the experiments of the Hypodermic Committee upon rabbits, for they found that the 1-16th of a grain of strychnine was the smallest dose that killed by the mouth, the 1-25th of a grain by the rectum, and the 1-120th of a grain "by the skin" as they call it, but more correctly by the *sub*cutaneous cellular tissue. That committee gave no experiments or observations of the therapeutic effects in man, but allude to the experience of Dr. BEIGEL, "who found one case yield to this method," and to my own observations in favor of its usefulness in certain cases.

I will now shortly detail a few cases of paralysis in which I have injected strychnine with benefit; at the same time I would remark that one must not look for the astonishing or suddenly beneficial results which

seem to and do at times attend the injection of anodynes in cases of *pain*, of delirium, etc.

Strychnine should be employed as a nerve tonic or nerve-excitant in cases in which active irritation is supposed no longer to be going on about the clot or presumed cause of the lesion.

What we may fairly hope to expect when we inject strychnine is to find a *beneficial* result produced in a *shorter time* and from much *smaller doses* than when it is given by the mouth, and benefit may be expected even in cases which have, as in case 1, been frequently treated, for weeks together, by its stomachic administration without benefit.

[We must omit the cases here detailed, but will reproduce the author's closing remarks:—ED.]

The effects obtained from the hypodermic use of strychnia are not so remarkable as are those which are constantly to be observed from the injection of atropia or of morphia. This is easy of explanation. Anodynes and narcotics are agents acting especially on nerves of sensation, and on nerve-centres, and are most valuable thus employed in acute affections, such as delirium tremens, acute mania, intense pain, etc. Strychnia is a nerve-tonic, and nerve-excitant, and its employment is chiefly valuable in cases of palsy and nerve atony, after all acute symptoms or causes have subsided. But because the case is one in which time is required to assist the action of the remedy, there can be no reason against trying to shorten the period required for the cure, or to limit the amount of the drug from which we expect benefit to accrue.

The chief advantages to be derived from the hypodermic use of strychnia are,

1st. *As a therapeutic test*, for three or four injections will almost always show if strychnia has any power or not over that particular palsy. If they have no effect it is almost useless to continue their employment.

2d. *It is economical, both as regards amount of* (*a*) *alkaloid to be used, and* (*b*) *time required for it to affect the system.*

(*a*) There is a great saving of the *amount of strychnia* required by this means over the stomachic employment of the same drug. The saving may be put at five-sixths of the amount which would be given by the mouth. For, as far as my observation goes, the 1-30th of a grain, injected every other day for thirty times, will consume just one grain of strychnia in sixty days: now if the somewhat ordinary dose of 1-20th of a grain is given twice a day—and some physicians order the 1-16th and even the 1-12th of a grain for a dose—it is evident that, in the sixty days, as much as six grains of strychnia are taken into the stomach. But, in cases of paralysis, where its continuance seems necessary, I do not, as a rule, inject the strychnia more often than twice a week, so that the saving is nine rather than six times less than the amount which experience shows us has to be given by the mouth for a reasonable amount of benefit to ensue.

Nor need this saving of material be considered remarkable nor the results singular. The experience of many medical men who have largely

employed quinine injections in ague and fevers in India, Italy, and the West Indies, is quite in accordance with my results with strychnia. Dr. MOORE, of the Bombay Medical Service, thinks four or five grains of quinine under the skin are equal to five or six times that amount taken by the mouth; and this opinion is confirmed by Drs. CHASSEAUD and MCCRAITH of Smyrna, by Dr. DESVIGNE in France, and more recently by Dr. HUGGINS and his colleague at San Fernando in Trinidad.

(*b*) In addition to the ultimate tonic effects of the strychnia being more quickly gained, and from a smaller amount of material, we have also manifested, by its introduction into the cellular tissue, certain phenomena indicative of the immediate or direct primary action of the agent upon the system. These are, 1stly, a general warmth or glow of the cutaneous surface. This warmth is experienced by nearly every patient, especially those benefited by the injection.* It is most felt in the paralysed limbs and down the spine, and at times making the patient "quite hot all over." This sensation lasts a few hours, according to the strength of the dose. 2dly, a sensation of lightness and freedom in, and a removal of, the "heavy-weight" sensation of the paralysed part,—the leg often feels "light as a cork," and, 3dly, increased temporary power, which also generally begins in about twenty minutes, and lasts for perhaps some hours.

As regards the jerking of the muscles. This symptom of the action of strychnia appears to me to be of less frequent occurrence than when strychnia is given with a similar object in view for a lengthened period by the stomach. It seems practically to be the case, as might theoretically be conceived, that the primary tonic effects—namely, greater power and improved nervous sensibility—should follow the small strychnine injections, sooner and more effectually, than after the system has, by slow degrees, absorbed enough strychnia which has been administered stomachically, and the quantity of which so given has been perhaps three or four times as much as has really been necessary. When, on the other hand, muscular "twitchings," spasm, or cramp, have accompanied the palsy or numbness previous to the employment of the strychnine injection, those irregular muscular movements seem very quickly to yield to the tonic influence of the puncture, as in case 7, and in a bricklayer now under treatment.

Thus far, then, in favor of the hypodermic injection of this alkaloid. What, on the other hand, are the disadvantages of this method?

That great care is necessary lest too large a quantity should be injected of this agent, I need not point out: far better, therefore, always is it to inject a minimum than a maximum dose, say from the 1-60th to the 1-80th rather than from the 1-30 to the 1-20th. As a rule, however, the 1-36th of a grain will suit most cases in which a tonic effect is desired upon a paralysed muscle or nerve.

* Diaphoresis is a more frequent effect from the injected strychnia, especially of the paralysed side of the body. The warm glow is always observed by patients to be entirely or CHIEFLY in those parts supplied by the paralysed nerves, even when the strychnia is injected into remote healthy parts.

I think it as well to mention that in two out of about twenty-five patients in whom I have injected strychnia a carbuncular state of the nose, or rather a collection of small boils arose. It is questionable to what extent, or whether or not, the strychnia injection is to be blamed. We know that belladonna will, at times, produce a rose-rash, and this is especially the case with atropia, its alkaloid, when injected.

Both of the patients who had the boils produced about the nose, had had a good many injections; one was the sailor with the gun-shot wound in the spine whose case is mentioned above; and the other was an Indian officer who had for years suffered from neuralgia and muscular prostration, consequent on—according to BROWN-SEQUARD—"congestion of the spinal marrow."

I have seen no ill results from the injection of strychnia, such as have been described as following the injection of the acetate or sulphate of quinine. Those salts seem, in many cases, to have set up severe irritation, and subsequent sloughing of the cellular tissue, and even tetanus has been attributed in two cases to the injection of that alkaloid. Strychnia is, however, innocuous to the cellular tissue, and scarcely ever causes the least smarting, burning, or other local sign of irritation, when injected. Nor would quinine, as far as my experience goes, if some more basic salt than those above alluded to was used.

5.—*Physiological Action and Therapeutical Uses of Conium, Belladonna and Hyoscyamus, alone and in combination with Opium.* Gulstonian Lectures, delivered at the Royal College of Physicians, London, by JOHN HARLEY, M.D., F.R.C.P., etc.

[*British Medical Journal, March* 28, *April* 4 *and* 11, 1868.]

[We make the following extracts from this admirable series of lectures. The importance of the subject, the scarcity in the textbooks of sufficient and accurate information on the physiological action of the drugs under discussion, and the fact that Dr. HARLEY states chiefly the results of his original experimental inquiries only, "without theoretical enforcements of (his) own,"—will spare us the necessity of an apology for the large space allowed to these extracts.—ED.]

CONIUM.—The *first* effect of hemlock is a depression of the motor function; and its *last* is the complete obliteration of all muscular movement derived from the cerebro-spinal motor tract.

The earliest effects of hemlock are determined by the condition of activity in the individual. If, after a dose of conium, he should continue to use his legs, the effect will most probably be first felt in these parts. If he remain in a state of comparative rest, the effects will be first declared in the eyes.

After taking three drachms of the succus of the *British Pharmacopœia*, I set out walking; and, three-quarters of an hour after the dose, I felt a heavy clogging sensation in my heels. There was a distinct impairment

of motor power. I felt, so to speak, that "the go" was taken out of me. After walking about a mile uphill, this sensation was very decided; and, on putting a foot on the scraper at the door of the hospital, the other leg was shaky, and felt almost too weak to support me. My movements appeared clumsy to myself, and it seemed necessary that I should make an effort to control them. At the same time, there was a sluggishness of the adaptation of the eye. My vision was good for fixed objects; but, when an uneven object was put in motion before the eyes, there was a haze and dimness of vision, producing a feeling of giddiness. The pulse and pupils were unaffected. These were the whole of the effects; and, after continuing for an hour, they rapidly disappeared, and left me in the possession of my usual vigor.

If a strong, active individual take five or six drachms of the succus on getting up in the morning, and start off for a long walk, he will be overtaken in the course of half or three-quarters of an hour with a feeling of general tiredness, and a special weakness of the knees, as if he had been regularly tired out by walking all day to the full extent of his powers. If he be unusually active and strong, he will not, perhaps, yield to the inclination to rest, but will proceed slowly on his way, feeling a strange lightness and powerlessness of the legs, with a tendency to drop forward on his knees. This will be associated with some giddiness, and a feeling of heaviness over the eyes. At first, the feeling of languor will be most oppressive, but it will soon become more tolerable; and, if he should continue his journey for an hour, he will find that the feeling of fatigue has by this time nearly passed off. In the course of another hour he will be as active as ever. . . .

The whole motor function of an individual under the full influence of conium is actually asleep; and this is the simplest view that we can take of the physiological action of hemlock. It is to the corpora striata, to the smaller centres of motion, and to the whole of the motor tract, precisely what opium is to the brain of a person really influenced by its hypnotic action; and just as opium tranquilizes and refreshes the over-excited and weary brain, so does conium soothe and strengthen the unduly excited and exhausted centres of motor activity.

At first sight, we should be apt to regard conium as a depressor of the motor function, and consequently of the muscular vigor; but this, I am convinced from repeated observations, would be a very erroneous view of its action; and I am prepared to say that, in repressing and removing irritative excitement of the motor centres, conium is a *tonic* to these parts of the nervous system in cases which require its use. I have administered conium for months—in one case, for more than six months—daily, and in such doses as have usually produced its full physiological effects; and the result has invariably been an improvement in the general nutrition and vigor of the body. It is doubtless by removing sources of central irritation of the nervous system that conium acts thus indirectly in improving the nutrition of the body.

The influence of conium appears to be in proportion, not to the *muscu-*

lar strength of the individual, but to his *motor activity*. This is a very important conclusion. It is derived from the following facts:

1. The operation of hemlock in the same individual varies in degree according to his motor activity. A dose of conium, which in the ordinary condition of the patient shall be just sufficient to produce the peculiar effects of the plant in a mild degree, will, during the exhaustion following a profuse seminal discharge, operate much more decidedly and intensely.

2. Those leading a sedentary inactive life are more readily affected by conium than those of active habits. A delicate person of active habits will, therefore, bear a larger dose of hemlock than one possessing abundance of strength with but little energy.

3. An active, restless child will often take, with scarcely any appreciable effect, a dose of conium sufficient to paralyze an adult of indolent habits; and such as would reduce a powerful muscular man to a tottering condition, and force him to assume the recumbent position. and retain it for a quarter of an hour or more.

The general inference from these observations is that the dose of conium must be proportioned, not to the muscular strength of the individual, but to the degree of his motor activity, functions which the operation of conium indicate to be so far distinct from each other. Indeed, it appears that by means of conium we may comparatively measure the bodily activity of the individual. Having completed his investigation of the phenomena and sensible effects resulting from the operation of hemlock, the lecturer, in seeking an operation of the *modus operandi* of the active principle of conia, was brought to consider the questions of its effects upon the *sympathetic system* and of its *elimination* from the body. With regard to the first of these question, he failed to recognize any effect upon the sympathetic nervous system. and consequently upon the heart and the secretions.

Fully recognizing the beneficial influence of conium upon nutrition and pain, he attributed these results to its power of allaying the nervous irritation, to which the continuance, at least. of the morbid process, might fairly be attributable. Its anodyne power in cancer of the stomach or bowel he considered to be the result of muscular relaxation in the diseased parts, rather than to any direct influence upon the sensory nerves—the conium being to the muscular parts involved in the cancerous disease, what the knife is to the sphincter muscle of the bowel when in a condition of irritable ulceration.

With regard to the elimination of conia, he had failed to observe it in the pulmonary and cutaneous exhalations, or in the urine. The latter excretion was searched most carefully and by different processes, but no trace of conia could be obtained. The urinary secretion remained unchanged during the action of the medicine. . . .

In treating of the second part of his subject. viz., the therapeutical uses of conium, the lecturer brought forward several interesting cases of nervous disease, and showed the power which conium possesses in controlling and subduing the convulsive diseases of children in particular.

He advocated its use in chorea, cramp, tetanus, and in some forms of epilepsy. In pertussis, laryngismus, stridulus, and other spasmodic affections due to derangement of the vagus nerve, he stated that his experience of conium had been exceedingly satisfactory. In all cases of irritability of the spinal cord, and especially in cases of undue excitement of the sexual organs, the beneficial action of conium was very marked. I can not too strongly insist, he observed, on one point, viz., that a dose of hemlock which falls far short of producing the peculiar physiological effects of the plant, is of no more use in the treatment of the diseases to which it is adapted, than an ordinary dose of quinine would be in the treatment of ague. Having satisfied myself, by careful observation of the patient, as to the quantity required to produce the earliest indications of hemlock action, viz., slight and transient giddiness with a little weakness of the knees, I prescribe a repetition of this dose every other, or every day, or even twice a day.

In tetanus it will be necessary to administer from three drachms to one ounce of the succus conii, and repeat it at intervals of two or three hours. If there be any difficulty in giving it by mouth, it may be administered by rectum.

Our ignorance of the therapeutical use of conium is declared in the preparations which have been, and still are, furnished for our use, and in the doses in which these are recommended. The extract of conium, when most carefully prepared, does not contain more than one percentum of conia; and of this preparation five grains would generally be insufficient for a child two years old, while not less than twenty or thirty grains would be required to produce in a slight degree the physiological effects of conium in an adult of moderate activity. The dried leaf and the preparations derived therefrom are absolutely inert, and the tincture of the fruit lately introduced into the *Pharmacopœia* is equally useless. If two ounces of either the tinctura conii *P.L.* or of the tinctura conii fructûs be taken, absolutely no conium effects will result. The only reliable preparation is the succus conii. From two drachms to one ounce of it will, according to the motor activity of the individual, invariably produce the full physiological action of hemlock, and the beneficial effects which may be expected to follow. I usually give a child, six months old, twenty or thirty drops of the succus conii; a child over two years old, one drachm; one ten years old, from one to two drachms. For a woman, I prescribe two or three drachms; and for a man, four or five drachms. From these initial doses I ascend until the peculiar effect of hemlock is declared. Having once attained this, it is rarely necessary to increase the dose, for the system rarely manifests any considerable toleration of hemlock, and a dose which will produce a given effect will, after six months' continuance of the medicine, usually influence the patient to the same extent at the end of that time. The succus is not liable to any appreciable variation, and it will keep unimpaired for years. But, for a complete examination of the medicinal value of the preparation of hemlock, I must beg to refer you to some papers which I contributed last year to the *Pharmaceutical Journal.*

BELLADONNA.—The effects following the subcutaneous injection of increasing doses of sulphate of atropia in man were first considered. The fiftieth of a grain of the salt is usually sufficient to produce the full effects of the plant; and, briefly summed up, the following are the effects of a full medicinal dose: An acceleration of the pulse from twenty to seventy beats, with a slight increase in its volume, and a considerable increase in the force of the cardiac and arterial contraction; a general diffusion of warmth throughout the cutaneous surface; a slight throbbing or heaving sensation in the carotids; a slight feeling of pressure under the parietal bones; giddiness, heaviness, and drowsiness, or actual somnolency, accompanied by a tendency to quiet dreamy delirium and nervous startings; complete dryness of the tongue, roof of the mouth, and soft palate, extending more or less down the pharynx and larynx, rendering the voice husky, and often inducing dry cough and difficulty of deglutition; a parched condition of the lips; occasional dryness of the Schneiderian and conjunctival mucous membranes; and increasing dilatation of the pupils.

After continuing about two hours, the dryness of the mouth suddenly gives way to a viscid, sticky, acid secretion, of a peculiar and very sickly offensive odor; and the mouth becomes foul and clammy, and the tongue usually covered with a white fur. A short time before moisture returns to the mouth, the pulse is observed to fall, and it now rapidly resumes its ordinary rate and character. The pupils have now reached the maximum degree of dilatation; but they will still contract to a fourth, sixth, or even eighth of an inch, varying according to the original dimensions of the pupil, when exposed to the brightest light.

During the action of the medicine, there will be a slight elevation of the temperature of the surface, rarely exceeding one degree; and a still slighter and less appreciable rise of the internal temperature of the body. No difference will be observed in the rate of respiration, except, as may happen in a nervous woman, a little emotional excitement on the sudden accession of the giddiness. The breathing will be as tranquil as before the injection. The patient occasionally heaves a deep sigh, or more frequently gives a prolonged yawn as he sits still in a dull, apathetic, or drowsy condition.

After the pulse has resumed its ordinary rate, and the mouth has moistened, the giddiness and drowsiness pass off, and the patient appears tolerably lively and brisk in mind and body; but he will himself continue to feel for some hours longer such languor of mind and body as will render him incapable of active bodily or mental exertion. A little dimness of vision also remains; and occasionally there is so much, that the patient is unable to thread a needle or even to read.

As far as I have observed, headache, either during the action of the medicine or afterwards, is a rare and exceptional occurrence. The desire for food returns soon after the operation of the medicine; but, during its action, insalivation and deglutition are almost, if not quite, impossible.

If a larger dose than is sufficient to produce the above symptoms be

given, there will be superadded a fluttering sensation in the cardiac region; slight delirium, manifested by picking and other motions of the hands and fingers in the air, as if they were in contact with real objects; muttering and smiling; staggering, or complete inability to walk.

The same symptoms, including *acceleration* of the pulse, follow the administration of belladonna or its active principle by the alimentary canal. . . . It is clear, first, that belladonna has no action on the vagus nerve; and secondly, that its effects are precisely the same, whether it be administered by the skin or by the stomach.

. . . The kidneys are active in the elimination of atropia from the minute when it enters the blood until it is entirely removed from the system. In the case of a full medicinal dose, about two hours are required for this purpose. Availing myself of its dilating action upon the eye, I have repeatedly demonstrated the presence of atropia in the urines of different individuals, eighteen, nineteen, and twenty minutes after the subcutaneous injection of the forty-eighth and even the ninety-sixth of a grain of sulphate of atropia. . . . In ten patients, the urines secreted immediately before and during the operation of the medicine were analyzed. The result was uniform. During the action of the belladonna, the urea and the sulphates and phosphates were increased; and, as a rule, the chlorine was proportionately diminished. The increase of the urea was disproportionate to, and considerably less than, that of the phosphates and sulphates.

. . . Atropia, as we have seen, is in the true sense of the word a *diuretic*, and a more powerful one probably than any other that we possess. . . .

Therapeutical Use.—A study of the physiological action of belladonna has led me to regard the plant in a new light as a curative agent. First and foremost, it is a direct and powerful stimulant to the sympathetic nervous system, or in other words, to the heart. Secondly, it is a potent diuretic. Thirdly, by virtue of its stimulant action on the circulation, it is a means for increasing the oxidizing processes within the body. Its influence as an anoydne is so fully acknowledged, that I shall omit consideration of the action upon the present occasion.

First, as a *cardiac stimulant*. It is remarkable that this, the primary and essential operation of belladonna, should have been so long neglected. This plant should stand at the head of all our stimulants; for there is no medicine in the whole materia medica which at all approaches belladonna in its simple, direct, immediate, and powerful influence in exalting the force and rapidity of the heart's action. In all conditions and diseases, therefore, in which there is a depression of the sympathetic nervous influence, such as syncope from asthenia, or shock; in the collapse of cholera; in failure of the heart's action from chloroform or other cardiac paralyzers—the subcutaneous use of sulphate of atropia, in doses varying from the hundredth to the fortieth of a grain, is the appropriate and most hopeful means of resuscitation.

With a view more of ascertaining the influence of belladonna in pro-

gressive failure of the heart's action in inanition, than of hoping for a permanent good result, I injected the two-hundred-and-fortieth of a grain of sulphate of atropia into the arm of an infant ten weeks old, at a time when, excepting a few beats now and then, the pulse was imperceptible at the wrist, and the cardiac systoles only 80. Within four minutes, the pulse rose to 100, and each beat was quite perceptible at the wrist. In eight minutes, it had increased to one hundred and ten, and was quite regular and distinct. The stimulant continued for the next three hours; and at the end of this time the pulse was too, of good volume, and of sufficient force to bear compression without obliteration. The respiration remained unaltered, and the pupils dilated from one-twelfth to one-seventh of an inch. The stimulant effect upon the pulse continued to within half an hour of the death of the child, five hours and a half after the injection of the atropia.

As a *diuretic*, belladonna may be used in cases of *suppression of urine*, whether accompanied by uræmic symptoms or not. As both the sluggish circulation and the torpid kidney are simultaneously aroused by the medicine, there is ground for expecting a restoration of the renal secretion.

In *acute nephritis*, we may hope for beneficial results from the use of belladonna, which, coming in contact with the irritated and congested organ, will doubtless calm the nervous irritation, and at the same time contract the dilated bloodvessels. I am at the present time busily employed in determining the effects of its operation in congested and inflammatory conditions of the kidney; and, so far as my experience goes, I am led to expect beneficial results in both states.

In *chronic albuminuria*, belladonna, I believe, will prove very serviceable, provided that the kidney has not passed into the degenerative stage bordering on fatty degeneration. In one case, CHARLES E., aged 35, who had been under my care for three months, for an acute attack of nephritis, commencing with excesssive œdema of the legs and exudation of albumen, I administered a single dose of atropia with the following result. On the 10th of January, he had so far improved under the influence of astringent chalybeates and hydragogue purgatives, that there remained but slight pitting of the integuments over the tibia; and the urine, when boiled and heated with nitric acid, gave only a small precipitate of albumen—enough, however, to render the fluid completely opaque from the presence of small flocculi of albumen. At 8.30 P. M. on the day above mentioned, I injected the forty-eighth of a grain of sulphate of atropia beneath the skin; and he passed at that time urine A. The atropia produced full effects; and at 10.30 P. M., when these had passed off, he voided urine B with some difficulty and in small driblets. Urine A had a specific gravity of 1022.4, and contained exactly a grain of albumen in 1000 grain measures. Urine B was of specific gravity 1024.4, and contained only half the quantity of albumen present in urine A. Four days afterwards, the patient presented himself at the hospital, and reported himself quite well. The œdema of the legs was entirely gone.

He passed urine in the prescribing room; and repeated examinations by my clerks and myself showed that the albumen had quite disappeared. The patient has not attended since, from which I infer that he continues well. He had presented himself regularly at the hospital the previous three months, and the urine was regularly examined. The albumen was observed to be slowly diminishing in quantity, but it had never been absent from the secretion. It appeared in this case, that the kidneys had received a sudden impulse to healthy action.

In another case, that of John B., aged 25, who had been under my care for two years continuously for acute, passing into chronic albuminuria, the albumen, which had long been stationary, began to decrease rapidly in amount under the influence of the same treatment.

The effect of a powerful dose of atropia upon the kidneys in chronic albuminuria is well seen in the analyses above given. It will be observed that there was a decided diminution of the albumen during the operation of the medicine. The result by the operation of belladonna in these cases must be accepted as the best proof of the condition of the blood-vessels generally during that operation. It is quite clear that there is no impediment from contraction of the arteries on the one hand, or from dilatation of the capillaries on the other, to the flow of blood through the kidney. On the contrary, it appears that the vessels of the gland are aroused by the action of the drug into a healthy state of excitement; a condition highly favorable for the nutrition of the organ, and the removal of chronic disease. As a means of promoting oxidation of the blood, belladonna will doubtless prove of essential service in the uric and lactic acid diathesis. I have employed it in rheumatic fever with marked success. I inject the fiftieth or fortieth of a grain of the atropia salt into the integument over the affected joint, as soon as the first indication of inflammatory action arises in the part. The anodyne action is so direct, speedy, and enduring, that the use of opium, which, excepting for its anodyne and hypnotic actions, is decidedly objectionable in this disease, is altogether unnecessary. The subcutaneous use of atropia in other acute diseases is a wide field for inquiry, and promises, as far as my observations extend, to be a most interesting and encouraging one.

(*To be continued.*)

Meteorology at St. Louis.

METEOROLOGICAL OBSERVATIONS AT ST. LOUIS, MO.

By A. Wislizenus, M.D.

The following observations of daily temperature in St. Louis are made with a MAXIMUM and MINIMUM thermometer (of Green, N. Y.). The daily minimum occurs generally in the night, the maximum about 3 P. M. The monthly mean of the daily minima and maxima, added and divided by 2, gives a quite reliable mean of the monthly temperature.

THERMOMETER FAHRENHEIT, 1868.

	MARCH.			APRIL.	
Day of Month.	Minimum.	Maximum.	Day of Month.	Minimum.	Maximum.
1	29.5	56.5	1	52.5	70.5
2	24.5	26.5	2	32.5	50.0
3	**15.5**	35.5	3	34.5	52.5
4	28.5	46.0	4	32.5	69.0
5	42.0	61.5	5	**26.5**	44.5
6	54.0	63.5	6	33.5	43.5
7	43.0	52.5	7	32.5	50.5
8	34.0	57.5	8	33.5	42.5
9	42.5	47.5	9	30.5	33.5
10	40.5	45.0	10	31.0	41.0
11	40.5	50.0	11	36.0	70.0
12	44.5	59.5	12	37.0	47.0
13	41.5	71.0	13	33.5	47.5
14	53.5	73.5	14	44.0	75.5
15	44.0	77.0	15	51.0	65.5
16	62.5	77.5	16	46.0	62.5
17	43.0	56.5	17	44.0	62.5
18	35.0	59.5	18	38.0	53.5
19	43.0	55.5	19	43.0	60.0
20	34.0	55.0	20	49.5	66.0
21	33.0	54.0	21	44.5	75.5
22	42.5	74.0	22	50.5	78.5
23	61.0	**82.5**	23	42.5	62.5
24	60.0	72.5	24	49.0	60.5
25	60.5	74.5	25	43.5	60.0
26	41.5	44.5	26	44.5	67.0
27	36.5	39.0	27	50.0	75.0
28	36.0	45.0	28	61.5	68.0
29	35.5	63.0	29	53.5	**80.0**
30	39.0	67.5	30	54.5	76.0
31	42.0	72.0			
Means....	41.7	58.6	Means....	40.5	60.3
Monthly	Mean...50.1		Monthly	Mean...50.4	

REPORT OF ATMOSPHERIC ELECTRICITY, TEMPERATURE, AND HUMIDITY.

BASED ON DAILY OBSERVATIONS at 6, 9, 12, 3, 6, AND 9 O'CLOCK, FROM MORNING TILL NIGHT, AT ST. LOUIS, MO.

1.—*Monthly Mean of Positive Atmospheric Electricity.*

Year	Month.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.	Mean in 7 years.	No. of Thunder Storms.	Prevailing Winds.
1868	M'rch	4.2	4.7	3 1	2.1	0.6	0.6	2.5	9.0	4	SE. and S.
1868	April.	2.3	2.3	1.2	2.2	0.9	1.4	1.7	6.5	5	SE., SW., NE.

2.—*Monthly Mean of Temperature, Fahrenheit.*

Year.	Month.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.
1868.	March.	44.3	48.9	55.3	57.6	53.8	49.9	51.6
1868.	April.	45.4	52.6	58.1	60.4	54.6	50.4	53.6

3.—*Monthly Mean of Relative Humidity.*

1868.	March.	74.5	70.3	62.6	60.6	66.4	71.6	67.7
1868.	April.	70.3	62.1	53.9	54.0	60.1	71.1	61.9

The mean temperature of March and April was 50.1 and 50.4, while the average for 30 years for March was 44.4, and for April 56.1. March was, therefore, far above, and April far below the average of temperature. The sudden heat in March started vegetation most powerfully. Elms and maples were mostly in bloom on the 18th of March, and peach trees commenced blossoming on the 25th of March. Frequent warm rains, with thunderstorms, promoted the rise of spring, and, on an average, vegetation started a month earlier than last year. In the beginning of April a sudden change took place: Northern winds prevailed; heavy snowstorms in the East expanded their influence over the West, causing great reduc-

tion of temperature. The thermometer fell repeatedly below freezing point, and cold rains covered the blooming trees with a sheet of ice. Nevertheless, the peach trees seem not to have been entirely ruined by it, and milder temperature in the second half of April, with warm rains, has restored the lost equilibrium.

The mean quantity of rain in March was 7.66 inches, and in April 7.08. while the average of 30 years for March is but 3.81, and for April 3.96. The quantity of rain that has fallen in these two months is, therefore, nearly double the average. May and June are generally rainy months, but after that we may expect more dryness, and perhaps a drought, like last year.

The health of the city has been exemplarily good. No epidemic prevailed, and sporadic diseases were so few that the weekly mortality was reduced several times to 54. With the beginning of the hot season, of course our usual summer diseases will appear, but probably not to any great extent.

Editorial.

*LETTER FROM DR. CARPENTER, OF LONDON.**

UNIVERSITY OF LONDON,
BURLINGTON HOUSE, W.,
March 16th, 1868.

To the Editors of the St. Louis Medical and Surgical Journal:

Gentlemen,—I regret to learn from some passages in a lecture by Dr. WATTERS "On the Correlation and Conservation of Forces," contained in your Journal for January (of which a copy, furnished I presume by Dr. W. has just reached me), that he considers me to have unfairly neglected his claims as an originator of the doctrine that the so-called vital forces are correlated to the physical.

From the manner in which Dr. WATTERS couples my name with that of Mr. HINTON, and from his reference to my "recent works" alone, he would seem ignorant of the fact that in June, 1850, my memoir on the Correlation of the Vital and Physical Forces,—in which that doctrine was not merely advanced speculatively, but was fully and elaborately discussed,—was read before the Royal Society, and was published in the "Philosophical Transactions" for that year;; as well as of the fact that the same doctrine was explicitly set forth in the third edition of my "General and Comparative Physiology," published in 1851, of which the earlier sheets (containing that exposition) had been in print some months before my paper was read at the Royal Society.

It is obvious, therefore, that in these writings I can have in no degree profited by Dr. WATTERS' thesis, which was not published until some months after the appearance of my memoir in the Philosophical Transactions. And whatever I have since written on the subject has been but a

* We very willingly insert this communication, in compliance with Dr. CARPENTER'S request. But in justice to ourselves we must remark that, when publishing the article of Dr. WATTERS to which this letter refers, we did not (and do not now) understand that he called Dr. CARPENTER'S reputation for truth and honesty in question. Nor yet do we think the latter quite correct in supposing that Dr. WATTERS prefers a claim "as an originator of the doctrine that the so-called vital forces are correlated to the physical." Being somewhat acquainted with Dr. W.'s views, we feel safe in saying that he does not, and never did, subscribe to the "Correlation Theory" as generally taught; that he does not claim priority in any of those views developed in the celebrated memoir in the Philosophical Transactions of 1850, but asserts Dr. CARPENTER to have "recently" used arguments in many respects identical with his own,—an assertion which, of course, it is not our province to substantiate.—ED.

reproduction, in my own language, of my original ideas, with such modifications as the advance of science has suggested to me,—as any one may see who will take the trouble to make the comparison.

I have long since ceased to care about credit for *priority* in any doctrine I have promulgated; but I do care for my reputation for *truth* and *honesty*; and before calling this in question, and imputing it to me that I have appropriated either his ideas or his language, Dr. WATTERS should have informed himself better as to the facts of the case.

That I am not wanting in readiness to acknowledge real obligations of this kind, will appear (I venture to think) from the recognition I have given of the advance which I consider to have been made in the subject by Prof. LE CONTE; and from the fact that I was the first to make known in this country the remarkable anticipation of my own views by Dr. MAYER, of Heilbronn.

Hoping that you will do me the justice of inserting this communication in the next number of your Journal, I remain, Gentlemen, etc.,

WILLIAM B. CARPENTER,
Vice-President of the Royal Society.

MEDICAL BIBLIOGRAPHY.

For a few months past, the American publishing houses have been less productive than they were in December and January especially. In France, on the contrary, the writers in medicine were exceedingly prolific, and we have received a perfect shower of announcements. The British press, too, has issued a large number of monographs on all branches. Our advices from Germany are a little behind hand, as may be noticed in our report.

Anatomy and Physiology.—HENLE's comprehensive work on Anatomy is approaching completion as fast as can be expected, in view of the enormous scope and detail of the treatise. The last fasciculus issued treats of Angiology, and presents the usual features, among which the excellent illustrations in wood, printed in two colors, are certainly the most conspicuous. The well-known *Manual of Dissection* by LUTHER HOLDEN, the lecturer on Anatomy at St. Bartholomew's, has been republished by R. M. DeWitt, N. Y.

Dr. RUEDINGER of Munich, has issued an anatomical work on the cranial nerves of man, illustrated by 46 figures on steel after photographs, on 14 plates; 68 pp. of text in 4to. *The Anatomy and Histology of the Human Eye*, by Prof. METZ, of Cleveland, 12mo., is in press in the office of the Medical and Surgical Reporter, Philadelphia. A recent volume of the Biblioth. des sciences naturelles is the work of Prof. ROBIN: *Anatomie microscopique des eléments anatomiques des épithéliums; anatomie et physiologie comparées.*

A few French monographs on physiological subjects are presented: BÉCHAMP, *De la circulation du carbone dans la nature*, etc., being the

demonstration of a chemical theory of life and the organized cell; 8vo., Asselin. MAREY, *Du mouvement dans les fonctions de la vie*, 8vo., Germer Balliére. SCOUTETTEN, *De la température de l'homme sain et malade*, 18mo., Savy. LEDENTU, *Rech. anat. et considerations physiol. sur la circulation veineuse du pied et de la jambe*, 8vo., Delahaye. GROSS, *Essai sur la struct. microscop. du rein*, 8vo., with 9 plates; Strasburg.

Practical Medicine.—The sixth fasciculus of CHARCOT, *Maladies des vieillards*, embracing gout and rheumatism, has been issued by Delahaye. LORAIN, *Etudes de Médécine Clinique et de Physiologie Path.*, Bailliére et fils, is said to be chiefly valuable for its accurate observations on cholera. FELTZ, *Etudes sur les embolies*, is published by Derivaux, Strasbourg. A small volume by ANFRUN treats of "the diagnostic and prognostic value of the temperature and pulse in certain diseases," Delahaye, Paris.

Several psychiatrical essays have been published:

OLLIVIER. *Pathologie morale;* "the influence of organic affection upon reason," 8vo., Germer Bailliére. GRENIER, *Etude medio-psycholog. sur le libre arbitre humain*, 8vo., Delahaye. KRAFFT-EBING, "on the mental diseases caused by concussion of the brain and injuries of the head," 8vo, Enke, Erlangen.

Lippincott & Co., Philadelphia, advise us of the issue of the first part of BROWN-SÉQUARD'S "Lectures on the diagnosis and treatment of Functional Nervous Affections," 8vo. The *Arch. générales* of this year, January to May, contain a very extended essay by DUCHENNE, on "pseudo-hypertrophic muscular paralysis, or myosclerotic paralysis." Delahaye advertises: ORDENSTEIN, on paralysis agitans and "*sclérose en plaques généralisées.*"

A new book by Dr. ANSTIE is announced by Macmillan & Co., London, on "*Neuralgia*, and the diseases which resemble it." That part of Prof. OPPOLZER'S Lectures on Pathology and Therapeutics treating of the circulatory apparatus has been issued separately, as "Lectures on the *diseases of the heart and bloodvessels*," Enke. Another new "Treatise on diseases of the heart," by Prof. v. DUSCH, has appeared in Leipzig. In Paris, Delahaye, BERGEON, "On the causes and mechanism of the *bruit de souffle.*" Wood & Co., N. Y., have in press a reprint of MURCHISON'S "Clinical lectures on *diseases of the liver.*" BLATIN, "Researches on consecutive *typhlitis and perityphlitis*," Germ. Baillière, is one of those hospital studies which are often valuable contributions to science. Dr. DICKINSON'S book entitled "On the pathology and treatment of *albuminuria*," Longmans, Green & Co., London, treats of the affections comprised under the head of "Bright's disease." LOCHER, "The medical and surgical diseases of the skin," published by Enke, Erlangen, is the first volume of a more comprehensive work announced under the title; "Medico-chirurgical Clinique; Lectures on all branches of practical medicine." The same house issued STEUDENER, "Contrib. to the pathology of *Lepra mutilans*," 8vo., with 3 plates. Another skin disease is specially treated by DOYON: *De l'herpés récidivant des parties génitales*, Victor Masson. GRIESINGER'S clinical treatise on *infectious diseases* has at last been translated into French, Ballière et fils. OPPERT, Visceral

and Hereditary Syphilis, is announced in the London book-list. LEUCKART'S great monograph on "Human Parasites" has been completed in two vols.

Surgery.—BILLROTH'S Lectures on general surgical pathology, (the German "Paget") have found French translators; they are published under the auspices of Prof. Verneuil, by Germ. Baillière. The large system of surgery in course of publication under the editorship of Profs. Pitha and Billroth is being issued with unusual promptness; the portion last issued, which we accidentally omitted to notice in the March number, (Abth. II, Heft 2, of the first volume) comprised: FISCHER, on injuries inflicted by weapons of war; BILLROTH, on injuries of the soft parts, etc.; THIERSCH, the minute anatomical processes in the healing of wounds; NUSSBAUM, on anaesthetics; and BILLROTH, on general operations and surgical instruments. FISCHER'S essay has also been issued as a separate work under the title: "Treatise on general military surgery," abundantly illustrated. The first fasciculus of GIRALDÈS, "Clinical lectures on the *surgical diseases of children*," just published, comprises congenital malformations.

We notice a few interesting memoirs in surgery: FOLET, "On resection of the wrist," Germ. Baillière, Paris; BOURDES, "On subcutaneous fibroplastic tumors of the extremities, Delahaye; COULSON, "*Stone in the bladder*, with special reference to its prevention, early symptoms, and treatment by *lithotrity*," 8vo., Churchill & Sons, London; SERRES, "On recto-vaginal fistules considered specially with reference to treatment," Asselin, Paris. BARWELL, On the causes and treatment of spinal curvature was "to appear immediately" at Mr. Hardwicke's, London. The 14th volume of the Berlin Hospital Reports, "*Annalen des Charité-Krankenhauses*," etc., contain two valuable clinical studies: one on *herniotomy* by Dr. EDM. ROSÈ,—the other, a very detailed report, on the *treatment of syphilis by hypodermic injections* of corrosive sublimate. DESORMEAUX' lectures on the *endoscope* have been rendered into English by Dr. R. P. Hunt, for the Chicago Medical Journal, and issued in book-form, 8vo.

In *Ophthalmology*, literary production continues active. Among French announcements we find,—besides the second edition of WECKER'S large treatise on diseases of the eye, which is being issued in parts by Delahaye,—the announcement: DELUCE (de Vire), *Des mèthodes d'extraction de la cataracte et de l'extraction semi-elliptique; nouveau procédé;* Asselin. On the same subject, we have FOUCHER, "Lectures on cataract" delivered at the Hospital Saint-Louis, V. Masson, Paris, and Prof. v. HASNER'S little brochure: *Die neueste Phase der Staar-operation*, Prague. Dr. J. STILLING has published a new method of treating obstructions of the lacrymal passages by internal incision, in an 8vo. pamphlet, Cassel. M. EMILE JAVAL wrote on "Strabismus in its applications to the pathology of vision, V. Masson. Mr. WILSON, of St. Mark's Ophthalmic Hosp., Dublin, gives us "Lectures on the theory and practice of the ophthalmoscope." Two systematic works on diseases of the eye, with splendid illustrations, are announced: one, already issued by Trübner & Co., London, is by Mr. BADER, of Guy's Hospital, consisting of one

royal 8vo. vol. of 516 pages, and an atlas of ten plates, six of which are chromos; the other, by Mr. SOELBERG WELLS of the Ophth. Hosp. Moorfields, also profusely illustrated, is to appear in October.

Two brochures, in German, on the mechanism of accommodation will be found important: that by Prof. COCCIUS is a systematic exposition, in 159 pp., 8vo., Leipzig; the other embodies experimental researches by Profs. HENSEN and VOELCKERS, Kiel.

In *Aural Surgery* we have to note a small brochure by Dr. SCHWARTZE, on the paracentesis of the membrana tympani. 8vo., Halle. Dr. MENIÈRE treats "of the therapeutic means employed in the diseases of the ear,"—122 pp. 8vo., Germ. Baillière, Paris.

Obstetrics. Diseases of Women.—There are few announcements. Wood & Co., of N. Y., promise a reprint of DUNCAN'S *Researches in Obstetrics*. A number of little essays on special subjects in this branch are advertised in Paris: VERDIER. "Researches on placentar apoplexy and haematoma of the placenta;" HERVIEUX. "On acute partial puerperal peritonitis and its treatment."—"On puerperal icterus," by the same author; FRANCOIS. "On chills in the puerperal state"—all published by Adrien Delahaye. Also "a clinical study on serous metrorrhœa of pregnant females," by Prof. BOUCHACOURT of Lyons, 8vo., Savy. A larger treatise on menstruation, its *troubles* and their treatment, by Dr. RACIBORSKI, was issued by Ballière et fils.

Therapeutics. Toxicology. Hygeine, etc.—WERBER, *Lehrbuch d. spec. Heilmittellehre* is a new systematic text-book on materia medica issued by F. Enke, Erlangen. Special investigations in this field are made public by MORENO, *Rech. chim. et physiolog. sur l'Erythroxylum coca du Pérou, et la cocaine*, Leclerc, Paris,—and BINZ "on the nature of the action of quinine," Hirschwald, Berlin. Dr. BENEDIKT, of Vienna, has written a work on "*Electrotherapy*," 8vo, Vienna, to be complete in two parts: and Churchill & Sons, London, have issued a pamphlet by Dr. ALTHAUS, "on the use of *galvanism and electro-magnetism* in medicine and surgery."

Chemical investigations on "leaden utensils for the water in domestic use" have been published by an author well known by previous writings on toxicological topics, Dr. L. PAPPENHEIM,—Hirschwald, Berlin.

The aged Prof. JULIUS VOGEL is preparing a work on "*the art of living*," a guide to the preservation of bodily and mental health and the attainment of a long life,—with numerous illustrations, to be complete in eight numbers, 8vo.—It is probably intended for the general public, although we may predict that it will be thoroughly scientific and compete in practical worth with Hufeland's classical volume on the same subject. The first part has appeared in Leipzig.

The U. S. Sanitary Commission have published (Hurd & Houghton, N. Y.,) an important collection of essays entitled "Contributions relating to the causation and prevention of disease and to camp diseases, together with a report of the diseases, etc., among the prisoners at Andersonville, Ga.,"—edited by Dr. AUSTIN FLINT, 1 vol., 8vo. A similar volume containing "Contributions relating to the surgery of the war,

viewed in its hygienic and practical aspects," and edited by Dr. FRANK H. HAMILTON, is in press.

An important contribution to *Medical Statistics* is VACHER, "on the popular diseases and mortality in the cities of Paris, London, Vienna, Brussels, Berlin, Stockholm and Turin in 1866," Savy, Paris.

Proposed Medical Law in Illinois.—Like the reconstructed Medical Association of our own State, that of Illinois is about to petition the State Legislature to pass a law requiring all persons intending to practice medicine within the borders of the State, to give evidence of ability and proper education. We are indebted to our esteemed correspondent, Dr. W. S. EDGAR, Secretary of the Morgan County Medical Society, and the originator of the proposition, for a copy of the proposed law. It provides essentially that all persons who, after its passage, purpose to begin practice in Illinois, shall submit to an examination by one of three State Medical Boards. But it embodies a very peculiar clause. The examination is to embrace Chemistry, Anatomy, Physiology, Materia Medica, Obstetrics and Surgery, "*omitting any examination on the theory of medical practice.*" This is a very queer provision, for its manifest intention: to avoid any collision with or exclusion of homœopathists, provided they are educated,—would have been covered by excluding the examination of therapeutics; we can see no valid grounds for allowing persons to practice medicine under a law like this who are, or may be, ignorant of pathology, etiology, diagnosis and diagnostic means, etc. Otherwise the law appears to be thoroughly elaborated,—a credit to its author.

Our opinion of this measure, excepting the above mentioned clauses, is well expressed in the words of Dr. SAMUEL ADAMS, in the Morgan Co. Med. Society: "I am inclined to give this law my approval without being very hopeful of the success of such legislation."

The fungus of Favus.—In our remarks on a case of favus reported in the January number we stated that Dr. TILBURY FOX of London believed the fungi of favus, herpes, etc, to be different stages and modifications of development of *Aspergillus*, whereas an experiment of cultivation of our own yielded an abundant crop of *Penicillium*,—a result confirmed by some other authors. We are happy to find that the apparent difference is readily reconciled. In a letter dated May 5, 1868, Dr. FOX writes to us:

"I have read with much interest your case of favus; but wish to point out that I use the words Penicillium and Aspergillus as synonymous, because they only differ in the fact of one having a receptacle or placenta (Aspergillus), and the other being without it. In fact, in my germinations I have seen the two forms on one and the same mycelial base."

We may have occasion to refer to this letter again. At this time we wish merely to make this correction, and to acknowledge the receipt of two valuable pamphlets by the same author, with our best thanks. G. B.

"*Colorless Tincture of Iodine.*"—A correspondent, Dr. J. K. REINER, of Stillwater, Minn., communicates to us his accidental discovery of "rendering colorless a solution of iodine, without sediment, or in any manner impairing its virtues," by the addition of bi-sulphite of soda. We are sorry to inform him, that the resulting compound is no longer a solution of iodine—which, of course, is true of the solutions of iodine rendered colorless by any other process,—there being formed sulphate of soda and hydriodic acid. The assertion, therefore, that this compound still retains the virtues of iodine unimpaired, can be made good only by clinical demonstration. We would be pleased to hear from the Dr. what clinical proof he can bring forward.

Orthopædic Apparatus.—Mr. KOLBÉ, of Philadelphia, has printed a pamphlet on orthopædic apparatus and descriptions of mechanical appliances, which will be of great service to the practitioner, by the directions it gives for taking measurements in ordering such apparatus, a point which often creates considerable difficulty and admits of serious misunderstanding. The pamphlet, which is at the same time an illustrated catalogue, may be obtained gratis upon application to Mr. D. W. KOLBÉ, No. 15 South Ninth street, Philadelphia.

St. Louis Medical College.—The annual circular of this institution, which is about to enter upon its twenty-seventh term, apprises us of changes in the faculty. Prof. STEVENS, to whom so many classes of students have looked up with love and attention, has resigned the chair of anatomy, which is now occupied by Prof. J. T. HODGEN; the chair of physiology thus vacated is filled by the appointment of Dr. E. F. SMITH.

The "Richmond and Louisville Medical Journal."—Dr. E. S. GAILLARD, editor and proprietor of *The Richmond Medical Journal*, Va., having resigned the Professorship of General Pathology, and Pathological Anatomy in the Medical College of Virginia, and, having accepted a similar Professorship in the Kentucky School of Medicine, the Journal mentioned will, hereafter, be published at Louisville, Kentucky, under the above name.

O'Reilly Prize.—Dr. JOHN O'REILLY, of New York, having offered, through the New York Academy of Medicine, a prize of six hundred dollars for an Essay on the Physiology and Pathology of the Sympathetic or Ganglionic Nervous System, the committee of award, appointed by the Council of the Academy, have adopted, with the concurrence of the Council, the following regulations:

1. The competing essays shall be sent in to the chairman of the committee, Prof. J. C. DALTON, M. D., No. 101 East Twenty-third Street, New York, on or before the first day of March, 1869.

2. Each essay shall be marked with some distinguishing device or motto, and accompanied by a sealed envelope bearing the same device or motto, and containing the name and address of the writer.

3. The essay selected by the committee shall be transmitted by them, together with its accompanying envelope, to the council of the New York Academy of Medicine, under whose direction the envelope shall be opened and the name of the writer announced at the first meeting of the Academy in May, 1869.

4. This prize is open for universal competition.

5. The committee have a right to reject whatever does not come up to a proper standard of merit. ALFRED C. POST, M.D.,

President of the Academy, on behalf of the Council.

COMMITTEE OF AWARDS.—J. C. DALTON, M.D., Professor of Physiology in the College of Physicians and Surgeons, New York; A. FLINT, JR., M.D., Professor of Physiology in the Bellevue Hospital Medical College, New York; ALFRED L. LOOMIS, M.D., Professor of the Institutes and Practice of Medicine in the University Medical College, New York.

The unavoidable delay in the publication of this number of our Journal owing to the destruction of the printing establishment in the late conflagration on Main street, has been longer than we could anticipate, and our readers can not deprecate this more than we do ourselves. It will not affect the next number, however, due July 10th.

We have been obliged to postpone some valuable communications for publication until our next issue.

BOOKS AND PAMPHLETS RECEIVED.

MORGAN, Electro-Physiology and Therapeutics. New York: Wm. Wood & Co. 1868. 8vo.

CULLERIER, Atlas of Venereal Diseases. Translated, with notes and additions by Bumstead. With about 150 colored figures on 26 plates. Parts I—III. Philad.: Henry C. Lea. 1868. Imp. 4to.

RICORD, Chart of Venereal Diseases. New York: Wm. Wood & Co. 1868.

MOOS, *Klinik der Ohrenkrankheiten. Wien: W. Braumüller.* 1866. 8vo.

HOLDEN, Manual of the Dissection of the Human Body. With notes and additions by Erskine Mason, M.D. New York: R. M. DeWitt, (1868). 8vo.

DESORMEAUX, The Endoscope. Transl. by R. P. Hunt, M.D. (Reprinted from the Chicago Medical Journal). Chicago: 1868. 8vo.

Medical Report upon the Uniform and Clothing of Soldiers of the U. S. Army. Surgeon General's Office. 1868. 8vo. Pamphlet.

STILLÉ, Therapeutics and Materia Medica. A systematic treatise, etc., etc. 3d edition, revised and enlarged. Philad.: Henry C. Lea. 2 vols. 8vo.

Orthopædic Apparatus and Description of the Mechanical Appliances employed in the treatment of Deformities, etc., with directions for taking measurements. By D. W. Kolbé, Manufacturer, etc. Philad.: 1868. 8vo. pamphlet.

FOX, TILBURY, On Impetigo Contagiosa. (Rep. from Brit. Med. Journal). London: 1864. 16mo. pamphlet.—From the author.

————, The nature of so-called "Parasites" of the Skin. (Rep. from Brit. Med. Journal). London: 1864. 16mo. pamphlet.—From the author.

BIDDLE, Materia Medica. For the use of students. 3d edition. Philad.: Lindsay & Blakiston. 1868. 8vo.

WILSON, ERASMUS, On Diseases of the Skin. With 20 plates. 7th American, from the 6th and enlarged English edition. Philad.: Henry C. Lea. 1868. 8vo.

CHAMBERS, The Indigestions; or Diseases of the Digestive Organs functionally treated. 2d American, from the 2d and revised London edition. Philad.: H. C. Lea. 1868. 8vo.

Constitution, By-Laws, etc. of the San Francisco Medical Society. San Franc. 1868. 8vo. pamphlet.

DAMON. The Neuroses of the Skin: their pathology and treatment. Philad.: Lippincott & Co. 1868. 8vo.

Report on Epidemic Cholera and Yellow Fever in the Army of the United States, during the year 1867. By Bvt. Lieut.-Col. J. J. WOODWARD, Assist. Surgeon U. S. A. Surgeon General's Office, Circular No. 1. Washington, 1868. 4to.—From Surgeon General's Office.

LOOMIS, Lessons in Physical Diagnosis. New York: Robt. M. DeWitt. 1868. 8vo.

MORTUARY STATISTICS.

Number of Deaths in the City of St. Louis, 1868.

DURING THE WEEK	MALES.	FEMALES.	Total.	STILL-BORN.*	UNDER 5 YEARS.
Ending March 6th	63	34	97	9	38
" " 13th	50	36	86	8	29
" " 20th	43	29	72	12	30
" " 27th	35	41	76	11	33
" April 3d	33	20	53	10	24
" " 10th	34	19	53	3	26
" " 17th	35	42	77	4	33
" " 24th	55	31	86	10	29
" May 1st	49	20	69	7	31
" " 8th	46	28	74	10	39
" " 15th	43	31	74	6	28
" " 22d	30	26	56	3	22
" " 29th	32	26	58	10	24
" June 5th	40	19	59	10	24
" " 12th	34	24	58	5	21
" " 19th	46	52	98	7	51

Total No. of Deaths in January	467—	Death Rate†	23.66
" " " February	429—	" "	23.12
" " " March	345—	" "	17.34
" " " April	294—	" "	15.20
" " " May	287—	" "	14.30

* Still-born are not included in list of deaths.

† The ratio of deaths per annum per mille of inhabitants. The number of inhabitants not being exactly known and constantly varying, these figures are approximative only, based on the official estimates of the population.

THE SAINT LOUIS

Medical and Surgical Journal.

JULY 10, 1868.

Original Communications.

CLINICAL LECTURE ON CHANCRE.

Delivered at the St. Louis (Sisters') Hospital, by E. H. GREGORY, M.D., Adjunct Professor of Surgery in the St. Louis Medical College.

[Reported by W. B. OUTTEN, M.D.]

GENTLEMEN :—

It has been my constant care to occupy your precious time in the most profitable manner possible, hence I pass by all matters of controversy relating to the important subject of to-day's lecture, and direct attention at once to points essentially practical.

You have frequent opportunities in this clinic of studying syphilis from original sources. Good examples of chancroid and chancre are not uncommon, and your minds are doubtless indelibly impressed with many of the distinctive features pertaining respectively to these two varieties of venereal disease.

Mark well the declaration which I now make. Chancroid is, under all circumstances, a local disease. On the contrary, syphilis, represented by chancre as its initial lesion, is, under all circumstances, a constitutional disease. Chancroid is the direct result of a specific virus which

implicates only contiguous parts, and is curable by local means. On the contrary, chancre, like the vaccine sore, is the *indirect* result of a specific virus. I say indirect, because both these affections are the direct consequence of systemic conditions, superinduced by their respective poisons. Syphilis and vaccina are not known as local diseases simply. From the moment of contact, the work of constitutional contamination is in progress, and as the mature vaccine pustule announces the completion of the period of incubation in the disease to which it pertains, so the perfected chancre proclaims the accomplishment of constitutional syphilis. Here the analogy between syphilis and vaccina ceases, for a second period of incubation succeeds to chancre which is peculiar to syphilis, and issues in the eruption of the so-called secondary disease. The peculiarity of second incubation probably accounts for the disassociation of syphilis from the class of diseases to which it belongs, as also for the current error that chancre contaminated the constitution, rather than itself resulted from systemic infection.

I again repeat, the importance of a correct diagnosis of venereal sores must be apparent to you all, as by far the larger proportion of these cases require local treatment alone, the general employment of iodine and mercury proving decidedly injurious.

With the aid of your attention I will attempt to describe the local venereal sore.

1st, Chancroids appear within a few hours, at most within a few days after infection. 2d, chancroids are more frequently multiple than single; when but one appears at the outset, others are apt to spring up from successive inoculation. 3d, chancroids are pustules before they are ulcers. 4th, chancroids show much inflammation and furnish pus freely. 5th, chancroids are soft, no induration, edges loose. 6th, chancroids have abruptly-cut edges, through the entire thickness of skin or mucous membrane. 7th, chancroids are auto-inoculable and rarely implicate neighboring

lymphatics; when, however, lymphatic ganglia are involved, suppuration is invariable.

Mark well the points upon which rests the assumption that chancroids are local sores. 1st, chancroids have no period of incubation. 2d, chancroids do not involve secondarily remote parts of the body. 3d, chancroids are auto-inoculable.

Now for the description of chancre. 1st, the period of incubation, which lasts for two or three weeks. 2d, chancre is single; when multiple the sores are simultaneous, not consecutive. 3d, chancre is a papula before it is an ulcer. 4th, chancre is not inflamed, nor does it suppurate, but furnishes serum in small quantity. 5th, chancre is hard, indurated base, edges sloping, firmly attached to subjacent structures. 6th, chancre does not involve the entire thickness of the skin or mucous membrane, generally is not distinctly excavated. 7th, chancre is not auto-inoculable and always implicates neighboring lymphatics, and the ganglia so involved never suppurate.

Mark again the points upon which rests the assumption that chancre is constitutional. 1st, the period of incubation. 2d, remote parts of the body are involved secondarily. 3d, chancre is not auto-inoculable. 4th, the fact as shown by repeated experiments, that its destruction within a few hours after its appearance fails to avert constitutional infection.

Would a practical familiarity with the lesion just taught make the diagnosis of syphilis easy? Yes, in a large proportion of cases. But you must be reminded that difficulties innumerable beset this subject, exacting the critical examination of circumstances and scarcely yielding to the most careful scrutiny.

The period of incubation, probably one of the most interesting features in the history of chancre, may be observed by accidental occurrences; for example, a wound at the time of coitus may inflame by contact with acrid vaginal secretions, or it is possible for the same point to be inoculated at the same time by chancrous and chancroidal

virus. Again, absence of cleanliness, absence of attention, absence of reliability, extreme dissoluteness, commerce repeated and promiscuous, are all circumstances that may obscure diagnosis. Again, chancre has no exclusive form, not unfrequently it is a trivial abrasion, a superficial erosion; its floor may not be excavated. I saw an example to-day in which the surface of the ulcer was elevated above the surrounding hard border. To be sure a chancre may be deeply excavated, and in some instances extensively phagedenic or serpiginous. These qualities, however, more frequently pertain to chancroid.

I will here call your attention to a most interesting relationship between chancre and the remote constitutional symptoms. BASSEREAU found a correspondence between the severity of the chancre and that of the syphilitic eruption. Rupia, sloughing of the throat, ulceration of the nose, and severe and obstinate muscular pains follow the phagedenic sore. DIDAY believes the superficial chancre—which is by far the most frequent—is due to inoculation from a secondary accident, and that the excavated ulcer is produced by inoculation from a primary lesion. The point to be remembered is, "as is the chancre, so is the remote constitutional disease, and that even if the constitutional symptoms following chancrous erosion are severe, they are not so obstinate or inveterate as those following the deeply excavated or phagedenic sore."

Another embarrassing circumstance in the diagnosis of syphilis is the situation of the chancre. In by far the larger proportion of primary sores they are found upon the glans, but occasionally the urethra is the seat of the disease. But the small amount of discharge, which is serous and bloody, the location of the pain at a fixed point during the passage of urine, and above all the specific induration, which is perceptible to the touch and implicates invariably the glands of the groin, will serve as diagnostic marks.

A pertinent question here suggests itself. Has not primary syphilis some pathognomonic symptom or symptoms?

Yes, incubation and induration. Chancre is not auto-inoculable; chancre is always associated with smooth, hard, and indolent lymphatic ganglia, without the soreness which pertains to inflammatory induration. This specific induration occurs within a few days after the appearance of the chancre, Mr. BUMSTEAD says within the first week; and the absence of induration in the sore and neighboring ganglia after three weeks is presumption, yes, almost positive evidence, that the patient is safe from infection.

A few words in conclusion regarding this all-important disease of the lymphatics observed so constantly in syphilis.

In strumous conditions of the body enlargements of the ganglia are common, and ignorance of the condition of the glands before contagion might place the diagnosis in doubt for a time. Under ordinary circumstances the tending of strumous glands to suppuration, and the absence of such tendency in syphilitic glands clears up the uncertainty. Indurated lymphatic vessels and glands indicate not only the existence of syphilis, but point to the probable site of the chancre. A sore on the genitals involves the inguinal glands. A sore near the anus implicates the group of lymphatics near the anterior superior spine of the ilium; induration of the submaxillary glands points to the lips, mouth, and tongue; that of the axillary glands, or those about the elbow, to the hand and arm; and that of praeauricular ganglia to the eyelid. A chancre may be overlooked, or the patient may deny having had a sore, and the characteristic indurated pleiad will satisfy one of the previous existence of a chancre. Indolence is the chief characteristic of syphilitic ganglia, yet suppuration may take place; irritating applications, violence, the conjunction of the strumous diathesis or the co-existence of chancroid, are all circumstances which may, under exceptional circumstances, determine the result.

UTERINE INJECTIONS.

By MONTROSE A. PALLEN, M.D., of St. Louis.

Of the various subjects connected with gynæcology, no one, perhaps, has given rise to more diversity of opinion than the propriety of injecting the cavity of the body of the womb.

Without advocating the extreme views of AVRARD (de Rochelle)* in France, who treats nearly all manner of uterine troubles by injections, I must enter my protest against the opposite extreme of never doing it except as a *dernier ressort*. The deductions drawn were in a measure suggested by the writings of MÉLIER, VIDAL (de Cassis), ARAN, SCANZONI, COURTY, HARDY of Dublin, ROUTH, SAVAGE, GREENHALGH, and SIMS, and they have been confirmed by experience, that keystone in the arch of all therapeutics.

Fortunately, the lesions of the uterus and its appendages, which produce hæmorrhages, throw off the blood through the uterine cavities, else many cases of menorrhagia and metrorrhagia would result in intra-pelvic hæmorrhages, the blood escaping within the peritoneal cavity, or around it, as the case might be.

Numerous sources of hæmorrhage are found outside the cavity of the uterus, and may be traced to the tissue of the uterus, the Fallopian tubes, the ovaries, the bulb of the ovaries, the pampiniform plexus of veins, the bulb of the vagina, and even to the utero-ovarian artery; all of which so intimately inosculate, that pathological or exalted conditions of either may constitute a cause for a uterine sanguineous flow.

Hæmorrhages from the uterus proper are produced by polypi, fibroid tumors, sub-involution, chronic inflammations (metritis and endo-metritis), granular erosions and

* GAZETTE MEDICALE, Paris, Jan. 18, 1868.

fungous growths upon the mucous tissue, (flexions and versions?), cancer and cancroids, and, in the United States, too frequently, by abortion.

Puerperal conditions are sufficiently common not to warrant special attention in this paper. To those lesions which properly are outside the obstetrical accidents, but which belong to the sphere of the gynæcologist, is the treatment by injection particularly referable.

The pathologico-anatomical conditions may be summed up in a few words: 1. *Alterations of function without morbid growth*, such as emotional disturbances, mental depression, pulmonary or cardiac affections, excessive venery, fever sequelæ, etc., and which may be, and most probably are, the reflex results of ovarian excitement producing an over-erection of the uterus, which exaltation gorges the uterine veins and arteries, or permits the flow through the Fallopian tubes directly from the ovaries, pampiniform plexus, the ovarian bulb, or even the utero-ovarian artery; 2. *Alterations of function with morbid growth*,—and are above enumerated in speaking of hæmorrhages from the uterus proper, (sub-involution excepted, which is arrest of retrograde metamorphosis).

All works on diseases of the female sexual organism are replete with the treatment of menorrhagia and metrorrhagia, yet we frequently fail to benefit in the least these conditions. For some years I have observed a number of cases, and although I have no notes of some of them, I have tabulated a few, treated principally by injections to overcome the alarming losses of blood, and sometimes, even, to get rid of the causes producing them. In many instances if we fail to immediately check the flow, our patients may be lost; or, when it is not required to at once save life, we should offer every chance commensurate with prudence, which will prevent a long and tedious recovery, retarded by profuse losses of blood, or small drainings, as the case may be.

Uterine injections are not devoid of danger, yet with

proper care and management, they are not to be regarded in the unfavorable light heretofore given them by the profession. It is true that the fluid thrown in may pass through the Fallopian tubes into the peritoneal cavity, and bring on fatal peritonitis, or produce ovaritis, or salpingitis, or metritis, or endo-metritis, or embolism, the result of pathological thrombosis, yet I believe the fluid ought never to pass into the peritoneal cavity, and that the other results are so seldom, that they should never be considered as objections. Why such deductions are drawn, I will endeavor to explain.

1. No injection should ever be thrown in, *unless the internal os and the canal of the cervix be well dilated*, sufficiently large to permit the introduction of the index finger, which allows of a free flow back of the fluid from the uterine cavity.

2. The cavity of the uterus should be *first educated* by dilatation by sponge tents, and the injection of tepid water. The water serves the double purpose of accustoming the cavity to the impulse of the stream, and it also washes out any coagula of blood or collections of mucus, shreds, etc. Now, with regard to the first proposition: The dilatation of the internal os and cervical canal always exists after the expulsion of the ovum in abortion, else the hæmorrhage would cease, because proper uterine contractions always produce a closure of the vessels opening into the cavity by a species of thrombosis: if any coagula, membranes, etc., remain within the uterus, it can not contract, hence the necessity of getting rid of them, and the least dangerous method of so doing is by washing out with water or some other bland fluid. If the substances can not be washed out, whenever the flow of blood is threatening, we should endeavor to produce artificial thrombosis by closure of the gaping mouths of the bleeding vessels by means of styptics or irritants.

Again, when the condition exists of alteration of function with morbid growth, we can dilate by means of sponge

tents, should the cervical canal and internal os be contracted. This leads to a species of education of the uterus, which accustoms it to a foreign body, and dilates the sphincter-like (?) internal os, so that it can not contract spasmodically and force the fluid into the peritoneal cavity, or bring on uterine colic, which is in all probability something more than mere spasm of the uterus. It is true, that sponge tents sometimes produce most deplorable results. I have known metro-peritonitis to supervene after their introduction, of which the patient came near dying; and Prof. T. GAILLARD THOMAS* reports a case of death by tetanus, supervening upon the same cause. To be forewarned is to be forearmed. Whenever the introduction of a sponge tent is followed by much pain, I always give instructions to be summoned, and immediately remove it, and provide for an anticipated storm, by the administration of such remedies as any prudent physician would suggest, consisting of hot abdominal fomentations, opiates, etc. No sponge tent ought to be permitted to remain longer than six or eight hours when first introduced: if, at the end of that time, the patient shows no constitutional disturbance or depression, the second and third tents may be allowed to remain a longer period, even for twenty-four hours, but under no circumstances beyond this time, as they become very foul and may give rise to septic fever, etc.

In chronic hypertrophy of the uterus, sponge tents are also very useful in producing absorption by compression, acting from within outwards, just as a well-applied bandage promotes absorption of an hypertrophied limb acting from without inwards. Every one knows that absorption of neoplastic tissue, particularly if the neoplasm in the uterus be the cause of the symptom hæmorrhage, promotes a return of healthy function; and in the uterus this is a most important consideration for rational therapeutics.

The method of injecting the uterus is of no small importance: sometimes, however, we must be guided by the

* THOMAS on the Diseases of Females. Henry C. Lea, Philadelphia, 1868, p. 85.

urgency of the case, and the circumstances surrounding it. Thus, for instance, on being summoned to a patient (No. 3 of Table) flooding profusely after an abortion in the second month, where the cavity of the neck and the internal os were well dilated, I have not hesitated to pass (wanting a better one) the ordinary glass female syringe up into the very cavity of the uterus, and wash it out with cold water (iced), and then, to throw in a solution, composed of one or two parts of Squibb's persulphate of iron, to three or four of water; this, however, was an extreme case, yet the result was most satisfactory. Again, I once used the hand-ball atomiser and sprayed the cavity (in a profuse hæmorrhage in a fourth month's abortion) with ether, followed by a solution (neutral) of sesquichloride of iron and water, three parts of the latter to one of the former. But when we have time, we should protect the vagina and soft parts, and use such a tube as will render it almost physicially impossible for any fluid to pass through the Fallopian tubes into the peritoneal cavity.

A syringe, absolutely air tight is also pre-requisite, else we might force air into the uterus, etc., which in turn might provoke very serious consequences.

When we have time to arrange every thing necessary, particularly in cases of hæmorrhage due to the presence of fibroid tumors, or to hypertrophy, or to sub-involution, the fact should be explained to the patient that she is about to undergo an operation more or less hazardous. This candid statement always exerts a beneficial effect by schooling her mind and will, which enables her to render all the necessary passive assistance to the surgeon in a strict obedience to his wishes. The bowels should be opened by a mild aperient, which serves to unload the hæmorrhoidal veins. The sponge tents, as many as are requisite, are then applied until complete dilation of the cervical canal and internal os has been accomplished. After the removal of the tents, the patient is placed in the left lateral semi-prone position, the Sims' speculum used, and the neck of the ute-

rus hooked up by a double spring-tenaculum which is self-retaining and always gives us complete control of the organ. A large silver catheter (or a gum-elastic one when the cavities are tortuous), such as is used in washing out the bladder after lithotomy, is gently inserted to the very fundus, and a pint or more of tepid water (about 98° Fahr.) is thrown in by means of the air tight syringe, which washes away all coagula or mucus. The catheter is then withdrawn and examined to see if its canal be perfectly free, when it is again inserted, and the vagina packed with cotton saturated with mucilage of starch. The starch serves to render the iodine innocuous, should that be used, and it serves equally well to protect the soft parts when any other irritant is applied. The labia and perineum are also coated with starch for the same purpose. The fluid then is slowly injected, and if the cavity of the uterus be very large as in the case of certain fibroids, it is, after a few seconds, again drawn into the syringe, and may be again injected and once more withdrawn. This pumping out serves a double purpose, by not leaving an excess of fluid within, and also prevents its dribbling afterwards into the vagina, which sometimes gives rise to disagreeable circumstances. The patient still keeping the lateral semi-prone position, the catheter is gently withdrawn, and this too sometimes requires a good deal of nicety, as the contraction taking place about the internal os grasps the instrument with considerable firmness. After the tube is out, the cotton is taken away from the vagina, the tenaculum removed, and the whole well sponged with tepid water, and a second wad of glycerined cotton introduced. This completes the operation, and the patient is gently lifted on her back or side. The catheter, however, should not be open at its distal extremity, but should be perforated in three or four different places on the sides near to it. This precaution is necessary to break the current of the flow, and thereby prevents the possibility of shock from its impetus

against the uterus, and also serves as a guard against the forcing of the fluid into the Fallopian tubes.

As the fluid enters the cavity of the uterus, the patient usually experiences a burning contracting pain, rarely violent, which seldom lasts more than six or eight hours, and frequently not more than three or four. Should irritative fever supervene, there is some tenderness over the hypogastrium which sometimes extends over the whole abdominal walls. Opiates, hot poultices over the abdomen, and vaginal injections of warm water, constitute the treatment when such exists.

In hypertrophy, sub-involution, or where fibroids exist, SIMS* evidently is right in explaining the rationale of uterine injections when they act beneficially by bringing about "an endo-metritis minus the suppurative stage."

The hæmorrhage is checked by the immediate styptic or irritant effects of the fluids operating directly upon "the hyperæmic intumescence of the mucous membrane," which is evidently very much contracted and produces a thrombosis of the blood vessels ramifying in or adjacent to it. When the "production of plastic or adhesive inflammation," which SIMS* speaks of, takes place, following these injections, this in all probability is the result of a new action which arouses a metro-lymphangitis or metro-phlebitis which does not progress as far as the suppurative stage. Thrombi are evidently formed in the uterine vessels by what KLOB calls "continuous apposition," and lead to a complete occlusion of many of them which heretofore were gorged with blood, and which are easily ruptured.

"After lymphatic thrombosis has existed for a certain time, a secondary derangement of nutrition, generally of an inflammatory character, is developed in the walls of the lymphatic vessels;" so says KLOB,† in speaking of puerperal pathological conditions. Evidently such may be aroused

* "Clinical Notes on Uterine Surgery," by I. MARION SIMS, London edition, 1866, p. 123.

† "Pathological Anatomy of the Female Sexual Organs," by JULIUS M. KLOB, Professor in the University of Vienna. Translated from the German by JOSEPH KAMMERER, M.D., and F. F. DAWSON, M.D. New York, 1868. pp. 276, 279, etc.

by local applications which produce mechanico-chemical physiological conditions. This possibly might explain the secondary soreness and tenderness complained of by patients who were suffering from lymphatic or phlebitic thrombosis, or both, co-added to metritis or endo-metritis, or both, minus the ichorous condition (blood infection) produced by the suppurative stage. In fact, according to VIRCHOW, complete thrombosis of the lymphatics usually prevents the passage of altered fluids into the blood, and becomes a barrier to infection, provided the thrombi do not soften.

Hæmorrhages, most alarming in character, frequently follow abortions in the fifth month or even somewhat earlier, even after the uterus is well contracted and all coagula or membrane-detritus expelled. This is explained by VIRCHOW, confirmed by KLOB, that uterine contractions are "not sufficient to arrest the hæmorrhage from the placental veins, and that closure of the compressed venous extremities is finally accomplished by a physiological thrombosis. The size of these thrombi must be in proportion to the contraction of the uterus, and consequently, according to the intensity of the endo-metritis, we find at the seat of the placenta, small or large thrombi, which give the characteristic uneven and nodulated appearance to this part." Certainly where uterine contractions exist, and firm ones at that, produced by the administration of ergot, and nature fails to set up this "physiological thrombosis," it seems rational to account for the cessation of hæmorrhage by the injection of cold or irritant or styptic fluids, by the production of a species of mechanico-chemical thrombosis. As far as my experience goes, such has never yet run on to blood infection, or has been followed by embolism, the result of softened thrombi being carried off by the circulation and arrested in either the pulmonary or any other of the great blood vessels.

The methods of numerous authors in the treatment of certain forms of uterine hæmorrhage have all been advocated or condemned, according to the judgments of various practitioners. It is not proposed to point out the defects or the benefits of any of them, but the subjoined table will explain the conditions of fourteen cases where about fifty uterine injections were employed. The foregoing remarks explain the rationale of the treatment:

CASE.	LESION.	FLUID INJECTED, AND SPONGE TENTS USED.	DATE.	MEDICAL ATTEND'NT	REMARKS, WITH RESULT.
1	Chronic inflammation; repeated hæmorrhages; menorrhagia; patulous os.	No sponge tents; Twice of nitrate of silver in solution 15 grains to the ounce of water;	Jan., 1858.	D. C. Tandy. M. M. Pallen.	Hæmorrhages checked for four months after second injection; reappeared in fifth month, but completely checked after third injection. Patient conceived in three months afterward, and was delivered of twins by M. M. Pallen, and has been in fine health ever since.
		one drachm at each injection. Once with one drachm of sol. of strychnia one grain to the ounce.	June, 1858.	D. C. Tandy.	
2	Subinvolution of eight months standing; frequent and copious hæmorrhages; os patulous; canal of neck dilated.	Eight times with solution of sulphate of zinc, twenty grains to the ounce of water; two ounces each injection.	Nov. and Dec., 1865. Jan., 1866.	M. M. Pallen. M. A. Pallen.	The flows were checked after each injection, but reappeared again in a few days; after the sixth none ever supervened. Cured.
3	Abortion in second month; violent hæmorrhages; contractions, expelling large clots;	Once with zinc solution same as No. 2; twice with solut'n of Squibb's persulphate of	Feb. 1866.	M. A. Pallen.	Cure followed by conception. Succeeded by abortion again, reported in No. 11 of this table.

	great pain; patient very much exhausted, almost collapsed.	iron—one of iron, four of water. Same quantities as above.			
4	Fibroid tumor; interstitial in anterior wall; sound passed five inches; repeated hæmorrhages for six months, occasionally for two years.	Dilated with two sponge tents. Injected once with tincture of iodine and glycerine, equal parts; two ounces of fluid injected.	Feb. 1866.	M. A. Pallen. N. Guhman.	Cure, followed by conception, but whether safely delivered or not is not known, as patient removed to some other residence.
5	Fibroid tumor, sessile submucous, left and posteriorly; menorrhagia and hæmorrhages for several years.	Dilated with three sponge tents. Pure tincture of iodine; two ounces twice injected.	Feb'y and March, 1866.	E. H. Gregory. M. A. Pallen.	Unknown, as patient left hospital, but flow after March menstruation was less.
6	Fibroid tumor, interstitial and submucous, embracing nearly all the body of the uterus. Depth of cavities 7 3-4 inches.	Dilated with two sponge tents before each injection, 2 oz. pure tinct. iodine injected at three different times.	M'ch, 1866.	E. H. Gregory. M. A. Pallen.	Patient suddenly died after leaving the hospital. Dr. Gregory had caused the patient to be placed on the floor on her back, and had, as he supposed at the time, injected the uterus with tincture of iodine. As he withdrew the syringe, he told the patient not to arise as she might faint. Strange to say, just as he cautioned her not to do so, she immediately got

CASE.	LESION.	FLUID INJECTED AND SPONGE TENTS USED.	DATE.	MEDICAL ATTEND'NT	REMARKS, WITH RESULT.
					up, fainted away, and expired almost at once. A coroner's inquest was held, and a jury of physicians failed to detect any trace of iodine, even in the cavity of the neck of the uterus, much less within that of the body; the vagina, however, was much discolored by it. No lesion was discovered at all, and the patient died evidently from some emotion, either fright, or shock, or possibly both.
7	Chronic endo-cervicitis and endometritis of nearly ten years standing. Os externum open as large as a shilling—cervical walls very thin—cavity filled with hard warty-like excrescences. Excessive menorrhagia.	Once, to check a very copious flow which had produced syncope, with equal parts of neutral sol. sesquichloride of iron and glycerine—no sponge tent needed as the cavity was well dilated.	June, 1866.	M. A. Pallen.	No more serious hæmorrhages, and ultimate cure after excrescences were destroyed with chromic acid, caustic potash, tincture of iodine, etc., applied at various intervals during six months. Patient had also general *purpura hæmorrhagica, frequent epistaxes* and *purpura, ulceration on legs*, which were cured when uterus was well. Iron, manganese, cod liver oil, etc., variously administered during treatment.
8	Chronic endometritis, small fib-	Twice with zinc solution as in No.		M. M. Pallen, one week pre-	At the second injection (by M. A. Pallen) a most terrific attack of uterine colic supervened, which threw the patient into a semi-

	roid tumor at junction of neck with body posteriorly.	2 ; no sponge tents.	Sept.. 1866.	vious to M. A. Pallen.	collapse, which nearly produced death. She ultimately improved under local applications of chromic acid, by means of a cotton wad on the end of the applicator.
9	Menorrhagia and metrorrhagia; enormous enlargement of cervix; endo-cervicitis; endo-metrititis; great thickening of anterior wall; anteversion; patient complained of intense pain in right iliac region which proved to be incipient pelvic cellulitis, which ran on to suppuration, and which was ultimately evacuated (after several punctures of a bistoury at different times had failed to bring the pus, preceded by Simp-	Injection of about one ounce of equal parts of solution of Squibb's persulphate of iron and glycerine, preceded with three sponge tents; the neck of the uterus had been divided (mutilated) after Baker Brown's method, and had failed to check the flow of the blood.	Dec., 1866. Jan'y, 1867.	E. Montgomery. M. A. Pallen.	Flow checked temporarily by injection. The pelvic cellulitis so much complicated matters, that no deduction concerning the drainings can be formed—the patient, however, recovered after an illness of about five months, and is now in perfect health, and menstruates regularly and normally. There were frequent applications to uterine cavity of a solution of iron, tincture of iodine, solution permanganate of potash and glycerine.

CASE.	LESION.	FLUID INJECTED AND SPONGE TENTS USED.	DATE.	MEDICAL ATTEND'NT	REMARKS, WITH RESULT.
9 Cont'd.	son's exploring needle) by a separation of the connective tissue between the bladder and uterus, with the finger, and thus breaking up the loculaments.				
10	Abortion in the fourth month; os and canal of cervix dilated; the finger could be passed through the internal os; patient had been draining four days; uterine cavity filled with clots and some membranes, which were turned out as well as possible by the finger and a sponge	Washed out with a stream of iced water for about 5 minutes, followed by injection of equal parts of neutral solution of sesquichloride of iron and glycerine.	January, 1867.	M. A. Pallen.	Uterus contracted after expulsion of clots: hæmorrhage partly ceased after cold water injection—completely so after the iron was thrown in: slight soreness and pain afterwards over the hypogastrium, and some fever for a few days: in a fortnight was up and well.

	on the end of a piece of whalebone.				
11	The same patient as No. 3; abortion again in the third month: the os and canal of the cervix dilated. Clots occasionally passing, mixed with muco-purulent discharge, which was very offensive. The abortion took place in New Orleans, and the patient traveled by steamer from that point to St. Louis (hæmorrhages and drainings constantly taking place during the transit), because her medical attendant in N. O. declined to in-	Uterus well washed out with a tepid infusion of white oak bark, tannin, and glycerine, several times during two days; hæmorrhage less; leucorrhagia still persistent, but not so offensive. On the fourth day, two drachms of a fluid composed of equal parts of glycerine, and a neutral solution of sesquichloride of iron twice injected. No sponge tents were needed.	May, 1867.	M. A. Pallen.	Uterus well contracted after the second injection of iron was thrown in, and no more blood issued until the next menstrual flow, which came on about eight weeks afterwards. Leucorrhœa persisted until endo-metritis and endo-cervicitis yielded to local applications of iodine, nitrate of silver, permanganate of potash, etc. Tonic constitutional treatment was all the time exhibited, consisting of the preparations of iron, manganese, bark, quinine, and hypophosphites of lime and soda, together with beef teas, wines, etc. In three months she was quite well.

CASE.	LESION.	FLUID INJECTED AND SPONGE TENTS USED.	DATE.	MEDICAL ATTEND'NT	REMARKS, WITH RESULT.
11 Cont'd.	ject. She had had continuous drainage for more than four weeks when first seen, and was very prostrate, much emaciated, and anæmic; subacute metritis, coadded to sub-involution.				
12	Menorrhagia of twelve years standing; metrorrhagia of five years standing. Large fibroid occupying the whole of the anterior portion of body of womb, fully the size of a fœtal head. Depth of cavities ten inches, as a Simp-	Two ounces of tincture iodine; three sponge tents for dilatation.	Jan. 19, '67.	M. A. Pallen.	Slight irritative fever, and menses came on second day after; lasted six days; not so copiously as before. Mucous polypus on the neck came away with second sponge tent.
		Two ounces tincture iodine, (two sponge tents used for dilating neck.)	July 15, '67.		No irritative fever; menses followed four days afterwards; lasted seven days; more copiously than last period. There has been, however, no inter-menstrual flow or metrorrhagia whatever; leucorrhœa less; general condition improved; bromide of potassium administered in twenty grain doses thrice daily for twenty-eight days, and blistered the hypogastrium by continuous use of tincture of iodine. Pulse never over 90; most frequently between 70 and 80 per minute.

son's sound passed that far; anteversion very marked. A small mucous polypus hanging in the vagina, from anterior lip of cervix uteri. Although quite fat,	Two ounces of solution of equal parts of glycerine and solution of neutral sesquichloride of iron. (Two sponge tents as usual).	Aug. 27, 1867.	M. A. Pallen.	Injection deferred until after menses, which lasted eight days, painless for first time, with very few clots. Leucorrhea almost ceased; neck of uterus perfectly healthy in appearance; no traces of former polypus; depth of cavities eight inches and a half. Slight irritative fever followed this injection.
patient was pale, very weak, and complained greatly of pain in the lumbar region. She was scarcely ever free from some bloody discharge, always mixed with a copious leucorrhœal flow. Pulse was small, feeble and frequent; never less than 90, often 110 or 120	Two ounces tinct. iodine; (1 sponge tent used for dilatation).	Oct. 15, '67.	M. A. Pallen.	Injection delayed until just prior to second menstruation succeeding the last one; *depth of cavities eight inches and a half.* The menstrual flow continued six days; quite painful and very many clots passed, some of them as large as a walnut; had an inter-current attack of cholera morbus; very much prostrated from its effects, as the depressing atmospheric conditions of epidemic cholera existed. Pulse 94 per minute; general condition not so good; cervix uteri not so healthy; leucorrhœa about the same. Decided irritative fever followed this injection, with continued soreness and tenderness over hypogastrium for about a week. Bromide of potassium and tinct. of iodine discontinued, and the lactate of iron and manganese ordered instead, with a tonic composed of elixir of calisaya, syrup of strychnia, quinia and iron.
per minute. Three sponge tents applied one after another, and the mu-	Two ounces tinct. iodine; (1 sponge tent used for dilatation).	Nov. 11, '67.	M. A. Pallen. M. M. Pallen.	About the same as one on Aug. 27th; same tonic treatment as prescribed Oct. 15th. Pulse down again to between 70 and 80 per minute.

CASE.	LESION.	FLUID INJECTED AND SPONGE TENTS USED.	DATE.	MEDICAL ATTEND'NT	REMARKS, WITH RESULT.
12 Cont'd.	cous polypus came away with second one. Cervix and os internum well dilated, sufficiently so to admit middle finger of left hand on 19th of June, 1866. *No metrorrhagia came on after first injection.*	Two injections actually, one of two ounces tincture of iodine drawn out of uterus, and then immediately afterward, another of two ounces of a solution composed of half ounce of neut. sol. sesquichloride of iron, and 1 1-2 ounces of glycerine (one sponge tent used for dilatation).	Dec. 9th, 1867.	M. A. Pallen. M. M. Pallen.	Leucorrhœa almost ceased; pulse same as last month; general appearance much better; patient stronger; increased in flesh; "rosy cheeks;" no lumbar pains; depth of cavity *slightly less than eight inches;* cervix uteri healthy. Decided irritative fever followed this injection, which lasted two days; patient went out on fourth day afterwards; same tonic treatment as last month.
		Two ounces tinct. of iodine; (one sponge tent used for dilatation.)	Jan. 17, '68.	M. A. Pallen.	Depth of cavities less than eight inches. Deferred this injection until after the menses of this time ceased. Patient somewhat nervous, as some *friends* had told her of case No. 6 of this table, where death followed an attempted injection. Pulse somewhat frequent; extremities a little cold; great care was used in forcing the fluid into the cavity, lest any shock should manifest itself; patient kept in recumbent position for an hour after the withdrawal of the uterine tube. No shock followed, and but slight irritative fever supervened. Same treatment as before.

Two ounces tinct. of iodine; (one sponge tent used for dilatation).	February 2, 1868.	M. A. Pallen. M. M. Pallen.	Depth of cavities *seven inches and a quarter.* This injection was tried before the catamenial flow of February. Flow unexpectedly came on during night of Feb. 6th; she did not look for it before the 10th; very painful, but not so copiously; there was decided irritative fever, with great tenderness over hypogastrium; used opiates and fomentations over abdomen; fever ceased, together with tenderness, on 10th; flow ceased on 13th, lasting seven days; few clots. The patient rather prostrate after this attack; wine or ale (as patient preferred) ordered, with same tonic treatment as before.
Two ounces tinct. of iodine; (one sponge tent used for dilatation).	March 19, 1868.	M. A. Pallen.	Depth of cavities *seven inches and a quarter.* Tumor evidently smaller than when first seen in June, 1867, or the hypertrophied condition of walls of the uterus very much diminished. From careful examination per vaginam over hypogastrium, and by means of the sound, I am disposed to think that both results have taken place. Patient entirely recovered from last attack, and notwithstanding she had just ceased menstruating, which lasted eight days, she is rosy, fatter than before, in good spirits, and not the least timid as she was last month. Slight irritative fever followed this injection for two days only; stopped ferruginous tonics, and put her on the syrup of the iodide of calcium and chloride of calcium; will try this for three months, hoping to get a shrinkage of the tumor by deposit of calcareous matter. The iodine injections will be made from this date every alternate month for a year, as patient is

CASE.	LESION.	FLUID INJECTED AND SPONGE TENTS USED.	DATE.	MEDICAL ATTEND'NT	REMARKS, WITH RESULT.
12 Cont'd.					willing to continue, and she is fully convinced that they decidedly control the metrorrhagia. The result thus far in this case may be said to be favorable.
13	Abortion in third or fourth month, not positive which; profuse hæmorrhage for ten days; the os dilated, about three fourths of an inch in diameter, and still more dilatable; clots passed with great pain; much prostration; great anæmia; pulse feeble, rapid and small, varying from 100 to 130 per minute.	No sponge tents needed; injected six times, as follows: 1. Solution of Squibb's persulphate of iron one part, and seven of water, about an ounce. 2, 3, 4, the same, increasing iron slightly at each injection. 5. Neutral solution of sesquichloride of iron and water; one-third of iron to two-thirds of water. 6. The same with less of iron.	November, December, 1867.	C. E. Briggs. M. A. Pallen.	The uterine cavities in this instance were particularly lax, and that of the neck was continually clogged with blood coagula, varying in shape and size from that of a large leech, to half the size of a cricket ball. The oozing and drainage were constant, and until the sixth injection never ceased for any period of time during fifteen days or more. Her recovery was slow and tedious, but no hæmorrhage ever supervened during its progress. Her general condition was most unfavorable, as she was phthisical, excessively nervous, and very much alarmed. The shock from both the operation, made for the purpose of bringing about abortion, and the great loss of blood, coadded to her constitutional cachexia, rendered her very prone to an unfavorable result; yet it proved otherwise, and the method adopted to check the flow undoubtedly saved her life, which in all probability would not have been preserved under any other plan of treatment.

14	Chronic hypertrophy; metritis and cervicitis, corporeal and mucous; menorrhagia and metrorrhagia of more than a year's standing. The patient had had a mucous polypus removed some two years previously;	Two sponge tents used; two ounces of fluid, composed one part of neutral solution of sesquichloride of iron, and two parts of water, injected.	March 28, 1868.	M. M. Pallen. M. A. Pallen.	A slight amelioration of hæmorrhage after first injection, but the blood continued to ooze constantly until the next injection, with about the same result; no irritative fever supervened; no diminution of leucorrhœa. The patient complained of a most disagreeable and constant burning pain in both femora and in the region of the sacrum. Bromide of potassium administered in large doses at night to promote sleep, forty grains to a half pint of water; ergotine, extract of cannabis indica, and phosphate of manganese in pill, three times daily. Depth of cavities four inches. For the third injection very large sponge tents were used, and the dilatation produced was most complete; the officinal tincture of iodine was slowly thrown in to the amount of two ounces, and permitted to remain in the cavity before being pumped out (such, at least, as had not drained out of the os tinca) for about three minutes. No shock was perceptible, and patient complained less than when the iron was thrown in. The next morning she had a decided chill, followed by fever, and stated that the "womb felt drawn up;" there was soreness and tenderness over the hypogastrium. The fever (irritative undoubtedly) ceased in about thirty-six hours, under the use of quinine and opium in powder, together with the fluid extract of gelseminum and tinct. of aconite (eight drops of gelseminum, two drops of aconite) every four hours; hot poultices over abdomen. Six days afterwards, as no further flow of blood took place, the uterine sound was passed, and the cavities measured less than three inches. Lumbar pains but slight, and femoral pains disappearing. No discharge per vaginam whatsoever. On the 22d of April she menstruated, it ceased on the 26th, and was quite normal in quantity and quality. She is rapidly convalescing, and the metritis and cervicitis almost cured.
	depth of cavities four and a half inches. Leucorrhœa very profuse and persistent; lumbar, sacral, and femoral pains constant; pulse feeble and rapid.	Two tents and same injection as before.	April 3, 1868.	M. M. Pallen. M. A. Pallen.	
	External os slightly patulous; cavity of neck lined with a velvety, shreddy looking erosion; inflammation of membrane.	Two tents and an injection of two ounces of tincture of iodine.	April 8, 1868.	M. M. Pallen. M. A. Pallen.	

CASE OF PARAPLEGIA FROM MENTAL SHOCK,*

Coming on suddenly, and disappearing suddenly from exhilaration and joy; for five months the patient almost entirely sustained by tonic medicines.

Reported by EDWARD MONTGOMERY, M.D., of St. Louis.

Miss R. is a girl about fourteen years of age, very sprightly and intelligent, and of a very sensitive and affectionate disposition: although not very robust, has always enjoyed excellent health until the attack which I am about to describe.

About the latter part of last June, she became very much alarmed about the safety of her father,—a man of very regular and domestic habits,—who failed to come home one evening at his usual hour. Towards midnight the mother showed much uneasiness, seeing which, the daughter became exceedingly depressed and fearful, and when her father reached his domicile he found both wife and child in a state of terror bordering on despair. In the morning the girl did not appear at the breakfast table as usual, and being asked why she did not get up, replied that she had tried, and found that she had lost the power of her lower extremities; said she had a headache and had slept none, and had a peculiar painful sensation along her back and in her legs. On learning the above facts, I endeavoured to impress the parents and the patient with the belief that the apparently alarming symptoms were only nervous and of a hypochondriacal character, resulting from the mental trouble

* We object to the name of Paraplegia given to this interesting case by Dr. MONTGOMERY, but consider it an illustrative contribution to our knowledge of that class of cases to which Dr. CHARLES F. TAYLOR has given the name of "Carnomania," (Quart. Journal of Psychology, Medicine, April 1868, p. 266). There was evidently no organic lesion of the nervous centres; therefore no paralysis, strictly speaking; nor was the case one of hysteria properly so called.

Dr. TAYLOR reasons thus: "As there was no organic lesion there must be a LATENT capacity; but ... this capacity was not recognized by the mind because the mind had received false impressions from the leg as to its actual power. Volition is in the ratio, not of the actual, but of the supposed, capacity of the organ commanded by the volition."

As the article on "carnomania" is not well suited to making extracts we must confine ourselves to calling the attention of our readers to that valuable essay.—ED.

and anxiety of the previous evening. I also tried to rally and banter the girl out of the notion that she was paralysed, and insisted on her getting up and walking; after her mother got her out of bed I caught hold of her, and in a jocular and persuasive manner, dragged her along the floor, but she seemed to have no power to move her lower limbs, and I had to hold her up whilst they hung dangling after her. I could pinch them or prick them with a needle without her evincing much feeling, although their temperature was normal and her general symptoms favorable with the exception of a slight acceleration of the pulse.

I then told her since she would not arouse her nervous energies, I would be compelled to cup and blister her, and administer much disagreeable medicine.

I ordered scarified cups to the upper portion of the spine, a stimulating liniment all along the back and lower extremities; a purgative of calomel and rhubarb, to be followed by a mixture of asafœtida, valerian, and ammonia three or four times a day. I charged the family and friends to exhibit to her no solicitation or anxiety, but to cheer her up, and endeavour to make her believe that her case was only a nervous attack and would soon pass away. On visiting her next day, I found no amelioration of symptoms; her bowels had been moved with difficulty, after taking three of the calomel and rhubarb powders; she had slept badly, had passed little water, still complained of headache, and declared she had not the least degree of power over her lower limbs.

I advised a continuance of the mixture and also five grains of bromide of potassium three times a day; if the bowels should be torpid, an enema containing *spir. terebinth.*, and free and frequent friction with the stimulating liniment. After three or four days she improved in some respects, her bowels and kidneys acted better, the headache left her, she slept well; but her appetite was gone, she appeared dull, languid and apathetic, and disliked greatly, even to try to stand or attempt to walk, saying that it pained

and distressed her, and she would actually shudder when I would hold her up and insist on her endeavouring to move her limbs. The following prescription was ordered in lieu of the asafœtida, valerian, and bromide of potassium :

℞ Strychniæ, gr. i
Ext. Belladonnæ, gr. v
Quiniae Sulph., gr. xxx
Mass. Pil. Ferri Carb. Sacch. Valletti, ʒ ij
Syrup. Simplicis, q. s.
Misce. Divide in pil. No. xl.
S.—Two every night and morning.

Hot embrocations and frictions to be freely applied to the whole length of the spine and lower extremities.

After using these forty pills I varied the prescription by omitting the belladonna and substituting the ferrocyanuret of iron for Vallette's mass; and again changing the ferruginous preparation to the sulphate, the lactate, the citrate, etc., retaining the strychnine and quinine with the view of sustaining the general strength and tone of the system.

It is strange that the strychnine did not in her case seem to manifest its usual cumulative effect; the ferruginous preparations also agreed well with her. During a period of five months she eat or drank nothing but daily a little water and tea, a small slice or two of an apple, or one or two figs. Bread or cake, soup, sago, arrow root, etc., eggs or meat, she would not taste. I firmly believe, and was assured by her friends, that she was actually nourished and sustained for those five months by the medicine and the small quantities of water, tea, apples and figs, and of these she only partook very sparingly. Preserved fruits, jellies, or even milk, she would not use; and beef tea or spirituous or fermented liquors were quite repulsive to her.

After treating the case about three months, my friend Dr. MAUGHS, saw the patient with me, and, after learning the history and examining her thoroughly, advised me to pursue the sustaining treatment and frictions with stimu-

lating liniments. The doctor and I were led to a favorable prognosis from the cause and manner of the attack, the fact that there was paraplegia and not hemiplegia, that sleep and the mental faculties were undisturbed, the secretions had become normal, and the temperature, rotundity and firmness of the limbs had not deteriorated; indeed, although she was using so very little nourishment, she did not become so enfeebled and emaciated as we might naturally expect, which was partly to be accounted for by the fact that her inactive life had not produced any waste of organic force or tissue change. Dr. MAUGHS also endeavoured to impress the fact upon her mind that her paralysis was only imaginary, of a nervous character, and if she would only exert her strength of mind and boldly determine to use her limbs, she would be enabled to do so, After arguing and reasoning the case with her in a very judicious and skillful manner, he lifted her up by the shoulders and dragging her across the floor endeavoured to make her walk or to use her legs to some extent, but in vain; she shuddered, trembled, and begged to be placed in a sitting or reclining posture, saying that the erect position, even when she was supported in it, caused a very painful and unpleasant feeling all over her.

About a week after Dr. MAUGHS' last visit, the parents informed me that they were very confidently assured that their daughter could be speedily cured by another physician who would pursue a differant plan of treatment. I told them to use their pleasure, and that I would not be offended at their dismissing me, only that I wished it distinctly understood that I did not give up the case as incurable or in any degree hopeless.

I was dismissed, and the physician under whose care the girl was placed was purposely kept in ignorance of the former treatment, for fear that his remedial measures and opinion of the nature of the case should be modified or influenced by the former management. With the change of doctors a corresponding change of treatment ensued, and

the patient was cupped, blistered, and purged; antimonials, mercurials, and depleting remedies generally, were freely employed, and in two weeks the girl was so much worse that I was requested to resume control of the case. I now found her exhibiting graver symptoms than ever; she was very dull and misanthropic, could not tolerate any hilarity or noise, was constantly drooping, was very intolerant of light, restless and disturbed in sleep, could not endure to be held up in the erect posture even for a minute, complained of headache, pain along her back and a very disagreeable feeling in her legs; her appetite was so bad that she disliked even the smell of food.

With all the anorexia and apathy existing, she could always swallow pills with the greatest ease. I therefore prescribed a large quantity composed of strychnine, quinine, iron and extract of quassia, and she took two pills morning, noon, and night, for about fourteen consecutive days, at the end of which time her general health was much improved. I then omitted the pills for about a fortnight, and gave a mixture of cod liver oil, carbonate of ammonia, and syrup of wild cherry, then returned to the tonic pills again, and after two weeks substituted a decoction of quassia, columbo, and gentian, acidulated with phosphoric acid.

This course was pursued for over two months from my resuming charge of the patient, during which time she gradually improved a little in so far as peevishness, moroseness, intolerance of light and restlessness was concerned; but her appetite or the power of locomotion did not improve although I kept up the use of the frictions, embrocations, and liniments, and also made her try to kick on india rubber balls with her feet, or to stand on her limbs holding on to a chair. I also tried electro-galvanism on three or four occasions at considerable intervals, but each time it seemed to make her worse, and she had such a perfect horror of it I had to desist.

One morning in the latter part of December her mother gave birth to a child; one of the ladies present opened the

door of the adjoining room where my patient was sitting and joyfully announced to her that she had got a little brother; at that moment the baby squalled lustily, and the invalid jumped up and ran into the mother's apartment and caught up the child and kissed it frantically! From this time her paralysis was gone, indeed, she seemed so rejoiced that she could walk that we had to restrain her from exercising her limbs too much. At first her gait was staggering, but in a few days her locomotion was excellent and she still continues to have perfect use of all her muscles. At this time her back and limbs seem as strong as ever, her appetite has returned and her general health is very good.

This case is interesting from the emotional cause and the emotional cure, and also for the length of time that her frame was supported and sustained whilst so little food was consumed.

March, 1868.

CASE OF INTRA-PERICARDIAL ANEURISM OF THE AORTA.

Reported by W. W. Grissom, M.D., of St. Louis.

Mr. Th. H., æt 60, a native of Baltimore, height 5 ft. 10 in., of nervo-bilious temperament and good physique, good liver till within the past ten years, since which time, by reverse of fortune, he was forced to live abstemiously, called at my office Feb. 3rd, 1868, and informed me that he had been suffering for several days with neuralgia of the face and head, for which he was ordered quinine and morphine. He walked home—a distance of eight blocks—and stopped on the way to have the prescription filled. While waiting he was attacked by a very violent pain about the centre of the sternum, with fainting and difficulty of breathing. The druggist gave him 30 drops of chloroform internally, and he was soon able to make his way home.

The following morning, Feb. 4th, I was called to see him. He had rested well during the night, was in no pain, pulse full and regular—about 65 beats per minute. Knowing him to be hypochondriac, I made no further examination of the case, but continued the prescription of quinine and morphine. I saw him again in the afternoon, about 5 o'clock. He stated that he had been spitting up a little blood (a clot of which he showed me), which I supposed from its appearance had come from the posterior nares. He had no further hæmorrhage, and slept well during the night. The following morning, Feb. 5th, at 6 o'clock, while sitting up in bed drinking a cup of tea, he complained of a severe pain in his jaw, and instantly fell dead without a struggle.

Having obtained permission of the family, a *post mortem* examination was made, 36 hours after death. On opening the chest, the pericardium, and the left lung in contact with it, presented a dark purple appearance from imbibition of bloody serum. The lungs themselves seemed healthy, as also did the liver. On cutting into the pericardium, it was found completely distended with blood, from a rupture half an inch in length on the posterior part of the aorta, about one inch from its origin. The probability is that the internal coats of the vessel, rendered friable by a calcareous deposit, ruptured on the 3d, at the moment when he suffered the excruciating pain in his chest, while at the drug store, the external coat giving way on the morning of the 5th, at the time of his death.

The heart was found to be about one-fourth larger than normal; the walls of the right ventricle were thinner than usual, while those of the left were much thicker than normal; the auricles and pulmonary artery presented a natural appearance. The mitral and semilunar, as also the tricuspid valves, were thickened. The aorta, from its origin up the ascending portion, was twice the usual size, and completely covered on its inner surface with a calcareous deposit. From that point the entire aorta, and even the

common carotid and subclavian arteries, presented atheromatous deposits between the middle and internal layers. There was no arteria innominata on the right side, but the subclavian and carotid were given off separately, but very much diminished in size—perhaps one-half—while the left carotid and subclavian were increased to perhaps twice the normal size.

I have been Mr. H.'s physician for the past three years, and have often examined his chest, but was unable to detect any derangement of either the heart or lungs; and I am of the opinion that Dr. FLINT is right in regard to the obscurity of the symptoms in cases of aneurism of the aorta at its origin and within the sack of the pericardium. I will quote his own language, as I take him to be good authority:

"Aneurismal tumors may spring from the thoracic aorta at different points. Not unfrequently they originate within the pericardium, in the sinuses of Valsalva, and in this situation rupture takes place before the tumor attains to a great size, the hæmorrhage taking place into the pericardial sac, and, of course, causing instant death. A fatal result from aneurism in this situation generally occurs without any diagnostic symptoms denoting a grave disease.

"The diagnosis is very difficult, and, perhaps, impossible. Such cases are not so uncommon as is generally supposed, for, out of 703 cases of aneurism examined by Dr. SIBSON, 87 were within the pericardium."—(Flint's Principles and Practice of Medicine: 1867; p. 335.)

702 NORTH FOURTH STREET, April, 1868.

SPONTANEOUS LACERATION OF THE VAGINA, UNITED WITH METALLIC SUTURES.—CURE.

By W. R. SAMPLES, M.D., of St. Louis.

On the night of Thursday, June 25th, 1868, about half-past twelve, I was hastily summoned to see Mrs. W., an Irish woman of the laboring class, and found her very much

exhausted by a profuse hæmorrhage from the vagina. Her pulse was frequent, small, and rapid, the extremities somewhat cold, the face very pale, pupils dilated, and her restlessness was such as is usually seen in patients suffering from a great loss of blood. I immediately tamponed the vagina with such material as was at hand, such as a handkerchief, rags, etc. Whisky was administered freely, and I sent for my friend, Dr. CARSON, to see her with me. We watched her carefully, and in about an hour or so, we inserted some more plugs of cotton within and around the vulva. The blood, however, continued to ooze slightly all night long. In the morning I went for Dr. MONTROSE A. PALLEN, and he saw her with me. The whisky was continued, together with beef tea; the pulse during the day grew gradually stronger, and the tampon was examined from time to time, and clean pieces of cotton occasionally applied around the vulva. No farther hæmorrhage ensued, although some little blood continued to slowly drain away. On the following morning, Dr. PALLEN again saw her, and finding her strength sufficient to warrant an examination, carefully placed her in the left lateral semi-prone position, and gently insinuated a Sims' speculum along the posterior wall of the vagina as the plugs were removed therefrom. When the parts were well sponged with cold water, nothing was seen save a mass of black clots around the neck of the uterus, which was unusually low down in the vagina. A careful exploration revealed a rent in the vagina, about an inch above the os uteri, extending from the mesian line in front, somewhat irregular in shape, around the neck posteriorly, up into the Douglas cul-de-sac, and from two and a half to three inches in extent. The clots were all removed, and a tampon of wet cotton reapplied; the whisky and beef tea continued during the day. Dr. PALLEN then stated, that if the patient's strength were sufficient he would stitch up the laceration that afternoon or on the next day. She was so weak, however, in the afternoon, it was deemed prudent to wait until the next

morning before any farther interference was attempted. A slight, bloody oozing continued all day, but the pulse came down to 108 or 110 per minute.

On the next morning, Sunday, June 26th, Dr. PALLEN, in the presence of Drs. FRICKE, WOLF, CARSON, and myself, after placing the patient in the left-lateral position, and elevating the perineum with a Sims' speculum, passed four sutures of malleable iron wire through the edges of the laceration, about three-quarters of an inch apart, by means of his curved vaginal-suture needles. These needles are about an inch and a half in length, attached at right angles to a shank of about six inches in length (one for the right and one for the left hand). The eye of the needle is at the point, and the malleable iron wire being so pliable, the necessity of passing silk ligatures, to be looped, in order that the silver wire should be drawn through afterwards, is thereby done away with. Dr. P. stated, at the time of the operation, that the cavity within the edges of the fissure felt like one of old standing, as the finger could be passed above and behind the fundus of the uterus, *but not within the peritoneal cavity*, and that it felt like a cyst (?) or sac. Why four sutures only were placed was owing to this fact, that adhesive primary union was hardly to be anticipated. Should such have been presumable, the sutures would have been placed as close as in vesico-vaginal fistula. The edges of the wound, however, were perfectly approximated, the wires were bent in the longitudinal folds of the vagina, and no dressings were used. Beef tea and port wine were used, and some solid food taken during the day, and the parts syringed with a solution of bi-sulphite of soda (an ounce to a pint of water). On the following Tuesday the parts were examined by Dr. PALLEN, in the presence of Drs. PAPIN, SCOTT, BRIGGS, YARNALL, CARSON, and myself, and, strange to say, they looked healthy, and indicated no sign of suppurative or inflammatory tendency. The patient at this time had recovered much of her strength, and the pallor, ensuing upon the

hæmorrhage, was giving away to a more healthful color about the face and lips. A mild aperient was ordered on Wednesday. On Thursday the parts were again examined, and found to be firmly and closely adherent. On Monday, July 6th, the wires were removed by Dr. PALLEN, assisted by Dr. CARSON and myself, and the whole wound found to be united in every respect. Such a result was not looked for, although it was hoped it might take place, as the wires held the edges in close approximation, and the uterus lying upon the cavity farther facilitated the apposition.

The history of this case hardly throws any light upon the cause of the laceration, farther than a supposition that it might have been, as Dr. PALLEN suggested, a peri-uterine hæmatocele, which had pressed down upon the vagina, between it and the uterus, and the sublying tissues being softened by a pressure from above, gave way at the time the hæmorrhage came on, which took place when the woman was in bed, just after she had twisted her body to the right side to lift an infant child which had fallen on the floor, *and she was in a horizontal position when she so did. The twisting* of the body, by partially turning the trunk and pelvis, evidently concentrated the superincumbent viscera, pressed upon by the abdominal muscles, down upon the uterus and vagina, and thus forced the supposed hæmatocele through the vagina.

Why a hæmatocele was supposed to exist, was owing to the fact that the woman had complained ever since her confinement, some three months before, of constant peri-uterine pain, and the presence of a cavity above and behind the vagina, rather tended to the belief that it was caused by some substance, most probably blood, effused at the time of parturition.

Injections of bi-sulphite of soda were used for antiseptic purposes during the whole treatment. The woman is now well, but ordered to keep the horizontal position, lest some of the cicatricial tissue should be endangered by the dragging of the uterus if she should walk about.

Reviews and Bibliographical Notices.

LECTURES ON ORTHOPÆDIC SURGERY. Delivered at the Brooklyn Medical and Surgical Institute. By LOUIS BAUER, M.D., M. R.C.S., England, Professor of Anatomy, Clinical Surgery, etc., etc. Second edition, with 84 illustrations. New York: William Wood & Co. 1868. Pp. 336. Price, $3 25.

[For sale by KEITH & WOODS, Booksellers, St. Louis.]

This is emphatically "the day" of specialists. The indorsement of the profession, long withheld, given grudgingly, has at last been bestowed, and to them belongs the merit of having promoted the giant strides which have marked the advance of medical science during late years.

The magnitude of medicine must now determine its votaries "to choose between general superficiality and special efficiency." "No competent man advocates the establishment of specialities at the expense of medical science, and independent thereof; on the contrary, they should emanate from medical science, receive their chief maintenance from it, and return its results to the same source from whence they originated. To pursue specialities *per se*, and disconnected from each other, would be prejudicial to scientific advancement, unproductive of practical results, and terminate eventually in the crudest empiricism."

"Orthopædy," says Dr. B., "has to do with the more permanent, and not rarely congenital, deformities of the skeleton and the locomotive apparatus. These deformities originate either in morbid changes and actions of the nervous system, or vitiated nutrition (rachitis)." Says Dr. B.:

"After mature deliberation, I have come to the conclusion that the cause in congenital, as well as in acquired, club-foot is preeminently defective innervation—the muscles reflecting all the morbid changes of the nervous system—and there is truly no reason why derangements in the nervous system should not take place in the fœtus as well as in a new born child. In club-foot the tibial nerve is the reason of the difficulty, as must be inferred from the experiments of Bonnet.

"Whatever may be the cause of muscular contractions, they are scarcely susceptible of any other remedy than the knife. From my experience, I look upon the claimed brilliant results in the treatment of talipes by extension with great reservation. If extension succeeds at all, it must be in the lightest cases of talipes, and in such where the human hand would equally suffice. I have had ample opportunity to test the principle of extension, and I have invariably met with negative results. The logic of facts has thus convinced me that extension of morbidly contracted muscles is impracticable and worthless. Extension may be an excellent card for the public, as granules and infinitesimals; but when these offerings are made to the professional palate, they must be rejected as absurd impositions.

"The muscles affecting ordinary flexion are the *tibialis anticus* and the *peronæus tertius;* in the higher degrees, the *extensor digitorum longus* and *pollicis longus* materially aid. In extension, the *gastrocnemius*, *soleus* and *plantaris*, aided by the *tibialis posticus*, *peronæus longus* and *brevis*, *flexor digitorum longus*, and *pollicis longus* muscles. Adduction of the foot is exclusively effected by the two *tibiales* muscles, whilst abduction is accomplished by the three *peronæi* muscles conjointly. The nerves supplying the different groups of muscles are, according to BONNET, the peronæus nerve to the *extensors* of the toes and the *peronæi* muscles, whilst the tibial nerve supplies the rest.

"Deformities of the feet are frequently congenital, but the greater number are acquired. By far the most frequent form of club-foot is *varo-equinus*—being more than fifty percent generally congenital. The idea is prevalent that the *triceps suræ* is the exclusive cause of varus, and consequently the division of the *Achilles tendon* sufficient; but the two *tibiales* muscles are frequently implicated."

Dr. B. says in regard to the treatment of club-foot:

"The general treatment resolves itself into the following indications: 1st, the removal of the muscular impediments. 2nd, the reposition of the bones. 3rd, the re-establishment of the motor powers. 4th, the promotion of nutritive growth and development of the affected extremity.

"In young subjects, all that remains to be done besides tenotomy is to keep the newly acquired position by appropriate appliances. The bones are occasionally displaced and deformed in

patients of some age. The mechanical treatment should be divided between the hand and appropriate apparatus, and proper care should be taken that the apparatus is always adjusted so as to act effectively in the intended direction. It is a common observation of orthopædic surgeons that the relief of contracted muscles by tenotomy reacts most favorably upon the nutrition of the affected extremity, and nutritive supply promotes self-evidently its growth and development. Passive motion co-operates in the same direction, and the most efficacious remedy in behalf of innervation is electricity and Faradaism. It should be used every day for months. Electricity is the substitute for volition. Next use friction with alcoholic liquids, with phosphorus grs. iij, dissolved in an ounce of warm almond oil. The use of the flesh-brush, with or without cold irrigation. The heat of the part should be preserved by the use of worsted stockings or flannel bandages. Besides, a proper hygienic regimen should be observed to promote health.

"After all, we may fail in our efforts, through the intricacy of the case. Hence I would advise you never to engage a case, but simply to guarantee your skill and attention. For the same reason do not uncharitably judge the failure of your colleagues, because they may have done their whole duty and failed where you might have been equally unsuccessful.

"Whatever the construction of those mechanical appliances may be to which we resort in the treatment of talipes, they should possess the following qualities: 1st, they should fit well. 2nd, their respective joints should be exactly located with the axis of the joints they are to subserve. 3d, their action should be diametrically opposite to the traction of the divided muscles, tending to reverse form and position. 4th, their action should be steady, and, while applied, uninterrupted. 5th, they should keep the foot firmly upon the sole of the shoe, and should not permit the heel to rise from its place. A mechanical apparatus with these qualities will fulfil its object, whatever its construction may be."

Dr. B. says the "proper time to perform the operation is at the end of the first year, when the principal part of the teething has passed, and the patient evinces some disposition to stand and walk." Mr. ADAMS operates much easier at the end of two months. We think the operation should be done before the

teething time. The proper time for adjusting the apparatus to the extremity is from the third to the fifth day, when the small wound in the integument has healed.

Dr. B. refers to the views of Prof. PANCOAST in most complimentary terms, as follows:

"That distinguished surgeon is of the opinion that in talipes equinus and equino-varus, etc., not the entire triceps is contracted, but the soleus muscle exclusively. He therefore contents himself with cutting off the insertion of that muscle from the lower portion of the gastrocnemius, and the upper part of the Achilles tendon itself. On a recent visit to Philadelphia, Prof. P. had the goodness to perform the operation upon two patients for my especial benefit, and gave me the opportunity of assisting him. I was thus enabled to examine the patients before the operation, with and without anæsthetics, and also to observe the immediate effects of the division. Both cases belonged to the incipient forms of equino-varus, and were congenital. One patient was one year, the other three years old. On forcibly flexing the foot, I expected to render the entire triceps tense. This was not, however, the case. The belly of the gastrocnemius remained flaccid, whereas the soleus was evidently hard, tense, and resisting. This condition suffered no alteration under anæsthetics. During the operation I distinctly perceived the yielding of the malposition, and as soon as the last of the fibres had been divided, the foot could be flexed without great effort.

"The operation was performed in a masterly manner, as follows: The leg being placed on its outer aspect and kept limber, the operator grasped the belly of the gastrocnemius and raised it off the soleus. He then introduced a sharp-pointed tenotome through the skin and aponeurosis. In the wound was inserted BOUVIER'S blunt-pointed convex tenotome so deeply as to be felt on the other side, between the gastrocnemius and soleus muscles. At this moment the soleus was rendered tense by strong flexion of the foot, and, with a horizontal section, the insertion of the soleus was carefully and completely severed. The foot was at once secured in a simple but efficacious apparatus, in which flexion was effected by a screw traversing the ankle joint of the brace. I was forcibly struck with the ingenuity of the operation, but must withhold my opinion as to its general applicability."

Dr. B. devotes his fourth and several succeeding chapters to

spinal deformities. "The ossification of the spine appears late than in almost any other part of the skeleton; the anatomical perfection requires, likewise, more time, and exceeds the period of puberty by years. During all that time some parts of the vertebræ are connected with the body by cartilages, and, consequently, they are much more easily disconnected by traumatic causes than if the vertebræ were entire. The spine, as a whole, is much more flexible in early life. There are no physiological curves in the spine of infants, and they develop themselves very slowly, and are scarcely established to their full extent at puberty. This accounts for the greater susceptibility to spinal deformities in childhood. The experiments of the late Prof. BONNET, restricted as they were to children, prove that comparatively little physical violence is necessary to produce the most serious injury of the spine. The museum of the Royal College of Surgeons, England, the Musée Dupuytren and other private collections illustrate the frequency of fracture of the spine. Prof. BONNET declared that he knew positively that causes other than tubercle were prone to give birth to posterior curvature. CRUVEILHIER, BILLROTH, GURLT, and particularly VIRCHOW, have taken firm ground against the tubercular theory."

Dr. B. also takes strong ground against the tubercular theory After giving a most interesting account of a particular case, he speaks as follows of the *post mortem* appearances:

"Gentlemen, you may easily imagine that I felt the most intense solicitude to get at the real nature and composition of that yellow, semi-solid material that filled the osseous caverns. At the first glance it presented itself as tuberculous deposit *par excellence*. Whilst I engaged in the microscopic examination of one, I sent the other half of the specimen to a gentleman in New York, whose profound knowledge in pathological anatomy and dexterity in the use of the microscope has, perhaps, no superior in this country. I requested his opinion as an expert on the question: Whether that material was tubercle or changed pus?

"Great, indeed, was my discomfiture when that gentleman sent an answer to the effect 'that it needed no microscope to recognize the tubercular material of the specimen.' In spite of my deference for his opinion, I nevertheless continued my investigations, which resulted in a widely different conclusion. The subject, however, being of too much importance to rely on my observa-

tion exclusively, I requested Prof. ALONZO CLARK to lend his assistance, which he courteously granted. In an examination instituted with that care and circumspection which so eminently distinguishes that gentleman, the fact was indisputably established that the material was *bona fide pus, in a state of condensation and fatty degeneration!* Even the advocates of bone tubercle, like ROKITANSKY, LEBERT and others, are forced to admit that the so-called bone tubercle proves often to be pus, having undergone some organic changes.

"No clinical observer can deny the fact that diseases of the spine spontaneously originate; but by far the larger number of antero-posterior curvatures are engendered by traumatic causes directly inflicted. I have collected all the clinical material that could possibly elucidate the point, and have found sufficient proofs to maintain that traumatic injuries are *the chief cause* of most of the maladies that befall the structures composing the spinal column and the locomotive apparatus."

Dr. B. says, "the first symptoms of spinal trouble are often obscure injuries of the part, which are often overlooked, and are followed by more or less disorder of the general health. The pain is felt around and in front of the body, and less at the spine itself. At the cervical portion the patients experience some difficulty in deglutition. At the thoracic portion the respiration is impeded and becomes laborious. Singultus is a common accompaniment. At the thoracico-lumbar portion the patient complains of pain in the stomach, and, exceptionally, of difficulty in the discharge of urine. By placing the patient in the prone position, however, and exploring the spine with a hot sponge, by percussion, and by lateral movements of the body, you will find no difficulty in locating the seat of pain, and its irradiation through the cervical, intercostal or lumbar nerves."

A most important symptom is "the stiffness of the spine noticable in the posture, gait, and movements of the patient. The head is fixed and slightly thrown backward, the shoulder-blades retracted and the thorax pressed forward. The movements are careful, the patient availing himself of every support. In picking something from the floor he will bend both hip and knee joints, and thus gradually and carefully approach the object, often supporting the body by placing the left hand upon the left knee.

The latter movement is indeed very characteristic and decisive of diagnosis."

Dr. B. devotes a chapter to the treatment of kyphosis, insisting upon rest and position of the spine as the first axiom in the treatment; urging, with much force, the absolute importance of early diagnosis, and the speedy adoption of measures calculated to prevent the mischief which we are, perhaps, unable to cope with when once established. "Let it be emphatically understood that the amelioration of posterior curvature is at best questionable, and its cure out of the question, notwithstanding the assurances of some authors.

"The very first and indispensable axiom should be *rest* and *position* of the spine. There is no mechanical apparatus, however ingeniously constructed, praised, and patented, which can fulfill this urgent indication, as long as the erect posture and locomotion are allowed. You have to insist upon the horizontal position. This is, then, the first and indispensable remedy which you have to adopt, and in this position you have to keep the patient *as long as there is a vestige of the local trouble left.* It is said confinement is detrimental. But I am by no means prepared to admit the truth of such an assertion. I have had patients for years in the recumbent posture, with the most satisfactory results. As soon as a part of the spine projects, an ordinary mattress would not answer. In such a case, a water-bed would be requisite. When active symptoms prevail, the repeated application of a few leeches at the affected locality is certainly beneficial, and Chapmans are useful.

"About the necessity and usefulness of mechanical appliances there is yet some diversity of opinion. In former times their efficacy was greatly overrated. The very best mechanical contrivance is nothing more than 'a monitor' to the patient, *restraining undue motion*, and slightly sustaining the superincumbent weight of the body. Stays are silly and reprehensible; they are not substantial enough to support the spine, but they are calculated to press upon the vital organs. Competent surgeons do not employ them.

"Constitutional treatment is but rarely required. Medication may be useful, and cod liver oil, sweet cream, fresh butter, and fat in general, may be recommended. My friend PAYNE, of Florida, is about manufacturing concentrated extracts of the

green turtle. He had the goodness to place a sample at my disposal, which was certainly very excellent. I am no great advocate for drugs in these cases. The preparations of iron upset the digestive powers. The true and direct tonic is food, on which we should chiefly rely."

Dr. B. furnishes a very concise account of lateral curvature of the spine. He says:

"Thus far the attempt to establish a simple and generally acceptable cause for all forms of scoliosis has proved a signal failure. There are different forms of this infirmity, arising from different morbid causes. We know that rachitis and endostitis may give rise to scoliosis, conjointly with kyphosis; that empyema and wry-neck are never without more or less lateral curvature. But all these are not the subject of the present discourse. Attention is especially directed to the species known by the term of "*scoliosis habitualis.*" First and foremost, it should be stated that the beginning of this disorder is entirely painless; that its development but rarely causes any serious constitutional disturbances, and that a moderate state of health is by no means incompatible with this infirmity. The fact is of significance, because it proves satisfactorily that there is no inflammatory or structural disease at the base of the difficulty. Scoliosis bears a close connection to a certain age, to the female sex, its evolution, and a certain general condition of the system and the spine. According to Dr. BUEHRING, of Berlin, a low state of hæmotosis at the period of puberty constitutes the general predisposition to scoliosis; that is to say, a hydræmic or anæmic state of the blood, with an insufficient nutrition of the body, depriving bones and cartilages of their usual firmness and elasticity. The natural deviation of the spine towards the right side of the thorax predisposes to the deformity.

"The actual deformity in these cases is preceded by undue flexibility of the spine. It is rare, however, that we are called upon for advice at this juncture. We find mostly already the commencement of actual scoliosis, or the so-called first degree of BUEHRING. Now is the time to promote the general health by every possible means—the period of undue flexibility. If the spine is already deviating from the perpendicular, active exercise can not be practiced to a great extent without injury to the patient. The patient is placed upon a covered table, in a dorsal position;

the hands of the operator are employed to correct the deformity, and to bend the spine in the opposite direction, and the patient directed to maintain the same by will for an hour or more, to be repeated several times in the day. Should the patient be so situated as not to be able to devote much time to the treatment, then, and then only, it may be expedient to provide a spinal supporter for day use. It would seem as if there could be no conciliation between active exercise and arrest of scoliosis; that we had to relinquish the one or the other. Hence we can not hesitate in accepting the recumbent posture as the better of the two. The fear of confinement is certainly exaggerated, if found at all by clinical observation. By ingenions contrivance, some orthopædic surgeons have succeeded in constructing apparatus combining with the recumbent position facilities for the pursuit of music, writing, drawing and reading, without the slightest inconvenience or fatigue. All we may reasonably expect from a spinal supporter is to prevent the progress of the deformity, and to retain the same *in statu quo.*"

We pass over *torticollis*, *genu valgum*, and other important subjects, that we may present some other more interesting points pertaining to joint diseases. Dr. B. says:

"By far the larger number of practitioners, the leading members of the profession among them, are of the opinion that most cases of this class are the result of constitutional disorder, of which the articular affection is but the localized symptom. To strumous disease has been assigned the first rank, inasmuch as it has been linked with the numerous and diversified cases that happen during childhood. From my own experience, I have to infer that not less than ninety percent of all articular affections occur before puberty. Inasmuch as scrofulosis is not limited to childhood, and is supposed to extend beyond puberty, a few more percent may be added to the original proportion, making a percentage of about ninety-five. Thus the theory of constitutional causation narrows itself down to the theory of strumous causation, and with this we shall have essentially to deal.

"Nobody seems to know accurately what strumous disease really is. There are certainly no two writers that fully agree in its definition; nor does scrofulosis rest upon any firm pathological base. Porrigo capitis and sycosis menti, formerly claimed as specific strumous forms, have now been proven to be caused by

insignificant vegetable parasites. The very prototype of scrofulosis—keratitis scrofulosa—has been reclaimed by modern ophthalmologists as an independent and exclusively local lesion. By incorporating tuberculosis with scrofulosis, some anatomical tangibility has been secured. Gradually the new pathological element has prevailed so completely that but the name of the old scrofulous doctrine remains. The alliance between scrofulosis and tuberculosis proves, if anything, that neither had ever acquired a self-sustaining existence. The identity of tubercle with pus has been asserted by CRUVEILHIER. The results of his experiments upon rabbits demonstrate that pus is susceptible of undergoing the very same metamorphosis as tubercle, from the same fluid condition to perfect innocuous calcification. If I correctly interpret the statement of GURLT, of Berlin, he has met with no tubercular joints and bones at all. VIRCHOW considers himself justified in stating that tubercle is fully compatible with the acknowledged changes of inflammatory products. At any rate, our knowledge on the subject is not final and exhaustive. Prof. GROSS, who is one of the warmest advocates for the theory of tubercular causation, owns that he has never met with tubercular deposits in joints. An articular disease is certainly a rarity among infants, seldom seen before the third year; up to the fifth year these affections become more numerous, and attain their highest proportion at the sixth. Then they diminish, and at the tenth year they are reduced to but few recent cases. The strumous theory does not explain these facts; we must, therefore, look for a more consistent explanation. The period of infancy is that of special parental protection. The second and third year of life enjoy, less or more, the same protection against accidents. With the fourth year a new epoch commences. The child is curious and inquisitive; it wishes to examine and to touch everything; it climbs upon chairs and tables; it trusts to its own guidance, and escapes from the eye of its mother, and is thus exposed to all sorts of falls and mishaps. With advancing age and knowledge, the child becomes more appreciative of danger. At a later period, when judgment and prudence assume their sway, accidents become of rarer occurrence. Reasoning from these facts, I can not but conclude to regard traumatic injuries as the sufficient cause of joint diseases during childhood. Nevertheless, I am far from denying that joint diseases may arise from constitutional disorder.

"Among all joint diseases those of the knee are the most numerous; next in number the hip-joint, next the spine, next the elbow, and, lastly, those of the tibio-tarsal articulation.

"Every candid practitioner will agree that the anti-scrofulous treatment of joint diseases has disappointed him. I followed with full confidence and scrupulous exactitude the doctrines of my distinguished preceptors, RUST and VON GRÆFE; but all my efforts were in vain. My cases took the usual course to complete obliteration of the respective joints,—malposition of the affected extremities, suppuration, caries, exhaustion, and death. Nay, more, I had the mortification to perceive that I could but rarely control the intense pain usually attendant upon such cases.

"The very first therapeutic axiom in the treatment of joint diseases is *rest—absolute* and *unconditional*—and the next *proper position* of the affected articulation. The ordinary way of rendering a joint immovable is by hardening bandages, by leather, gutta percha, wooden, wire, or light metallic splints, that are adapted to the form of the extremity. The position of the affected joint should be that in which the patient is the most comfortable and at rest. Some surgeons advise to give the extremity such an angle as will be most conducive to its usefulness. We have nothing to do with that object in the first stage of joint disease; their advice is in place when the joint is about anchylosing. I rather prefer to secure the immobility of the joint by wire and metallic splints, inasmuch as they will admit the use of permanent bath, which I think is invaluable in the treatment of wounds. Antiphlogistic remedies are vain as long as position and rest are disregarded. If the affected member has already been placed in malposition, you have promptly to reduce the same to secure articular rest. This should be done under the full influence of anæsthetics. I consider chloroform better than ether, and equally safe. If we meet with resistance, we have to overcome the same by legitimate effort of physical power. I would not hesitate to break up intra-articular adhesions if they offered opposition. If intra-articular effusion opposes the reduction of the malposition, I would certainly perform paracentesis of the joint. If muscular contractions are in the way, I would resort to myotomy or tenotomy. Unless I were permitted to adopt that plan, I would decline all responsibility attached to the treatment of any joint disease.

"It is, indeed, a most egregious error to assume that the divis-

ion of contracted muscles is merely of mechanical importance; in some as yet physiologically unexplained manner do the contracted muscles relate to the existing joint disease. It would seem that certain muscular groups stand in vital relation with certain joints—one actuating and irritating the other through the same source of nervous supply. DIEFFENBACH already suggested the antispastic effect of myotomy and tenotomy. I not only accept his views as correct, but from experience I am justified in enhancing the same, that in joint diseases, at least, it is a most reliable, prompt, and unfailing antiphlogistic."—

The notice we have bestowed on Prof. BAUER'S work shows the estimate we have formed of its contents. We therefore conclude by thanking him for the information he has afforded us, and commending the book—a very good one, indeed—to the attention of all who take an interest in the subject. E. H. G.

A PRACTICAL TREATISE ON THE DISEASES OF WOMEN. By T. GAILLARD THOMAS, M.D., Professor of Obstetrics and the Diseases of Women and Children in the College of Physicians and Surgeons, New York, etc., etc. Philad.: Henry C. Lea. 1868. 8vo., pp. 625. Price: cloth, $5 00; leather, $6 00.

[For sale by Keith & Woods, Booksellers, St. Louis.]

Since the days of HIPPOCRATES, or (as COURTY* not inaptly remarks), such authors as wrote under the name of "HIPPOCRATES," the diseases incidental to woman have been specially treated in chapters and books concerning inflammation and displacement of the womb, irregularities of the menses, sterility, etc., and their special forms of treatment have been subjects eliciting great attention upon the part of the medical profession. Until the re-introduction of the speculum by RÉCAMIER, the era of gynæcology was somewhat mystified, notwithstanding AMBROSE PARÉ, PLATER, MARSITIUS CORDEAS, FABRICIUS DE HILDEN, MAURICEAU, PEN, VIARDEL, PORTAL and SAVIARD, labored vigorously to systematize somewhat the crudities of ÆTIUS, PAUL of Ægina, RHAZES, ALBUCASIS, AVICENNA and others. They accomplished, however, nothing more than a mere repetition of incomplete observation, a rehash of old formulas and prescriptions, many of them the traditionary lore of jugglers, char-

*Traite pratique des maladies de l'uterus, etc., Paris, 1866.

latans and empirics. RÉCAMIER'S popularizing with the profession the use of the uterine speculum, was a step in advance which brought forth results of a more tangible nature, and which were, as we now know, very meagre and crude. It were out of place in this *critique* to compare the case of RÉCAMIER and BENNET with that of SIMSON, SIMS, HEWITT, EMMET and THOMAS, as the last named has so thoroughly handled the subject, and withal so modestly, that we must refer our readers to the work in question for the literature of the times.

Professor THOMAS' "Diseases of Women," is the only work on the subject yet published by an American author which is entitled to a position upon the shelves of any reputable practitioner.

Its simultaneous appearance with GRAILY HEWITT'S first American edition on the same subject is most auspicious, and although the latter work is very excellent, a comparison drawn between the two must result in favor of THOMAS', which is peculiarly American in its practical good sense, and very un-American in its candor and want of ostentation. Written with great care, its style is unexceptionable, and we are glad to add, the grammar is not neglected, as is too often the case with our native authors.

Prof. THOMAS opens his work with a chapter devoted to the "historical sketch of uterine pathology," which is replete with interesting facts not generally known, and indicates upon the part of the author a vast amount of research and labor.

The second chapter, on the "etiology of uterine diseases in America," is a home-thrust, and explicitly sets forth causes which reflect shame upon us as a people. We can but state, that this chapter, put out by one of our tract societies, would in all probability do more good than one would imagine at the onset. Our women need some one to tell them, that "the want of air and exercise"—"the excessive development of the nervous system"—"improprieties of dress"—"imprudence during menstruation"—"imprudence after parturition"—"*prevention of conception and induction of abortion*"—"marriage with existing uterine diseases" etc., etc., are most prolific causes of bad health and of the subsequent unfortunate and frequent infelicitous domestic relations, which are so crushing to their delicate and sensitive organisms.

Our *rôles* as physicians are numerous, and the advice of medical men is never taken amiss, particularly if offered in a proper spirit. The subject of "female disease" is getting to be a gigantic one, and he who can check its development, is as well worthy of reward and reputation, as is he who successfully combats its inroads and drives it before scientific therapeutics. Prof. HORATIO STORER of Boston has put the ball in motion by a direct appeal to the good sense and morality of our people. Professor THOMAS does equally well by enunciating it to the medical men of our country.

The third chapter, on "the diagnosis of diseases of the female genital organs," presents nothing particularly new to the student of gynæcology, save THOMAS' and EMMET'S self-sustaining specula, both of which are excellent; but to the profession at large his directions are precise, novel, and important. Experience in these matters warrants us to join with him in advising every one to mark the rational signs with care, to be very careful in the management of the patient during physical examination, because none save experts can judge positively, and even they sometimes are too loose in the necessary particulars to arrive at accurate diagnosis—hence, we should leave nothing undone, should omit no means of physical diagnosis. The following "recapitulation of means for exploring pelvic viscera and tissues" taken from Prof. THOMAS' work should be copied into the note book of every student of medicine.

"1st. *Vagina and cervix*—vaginal touch; sight through the speculum.

"2d. *Outer surface of uterus*—vaginal and rectal touch, while the organ is brought within reach by hypogastric pressure or the tenaculum.

"3d. *Cavity of cervix and body*—tents, followed by introduction of finger; the uterine probe: the endoscope (?).

"4th. *The ovaries, broad ligaments, pelvic peritoneum, and pelvic areolar tissue*—vaginal touch; rectal touch; conjoined manipulation; abdominal palpation; auscultation and percussion; the exploring needle."

Such a table is invaluable, and a knowledge which the application of its contents implies is not such as is obtained by him of the old-fashioned speculum of FERGUSON or RICORD, and of a few caustics twice a week to the neck of the womb! Short as

is this table, it concentrates the whole history of gynæcology, and causes one to know that what he seeks for must have been obtained by a long and painstaking course of study.

The fourth chapter, "on diseases of the vulva" is practical, particularly concerning the rupture of the bulbs of the vestibule, pudendal hæmorrhage, pudendal hæmatocele, pruritus vulvæ and coccyodynia. How frequently the last mentioned exists, and unrecognized, we must leave to the imagination, when we recollect that it was not even discovered until 1861.

It occurs most frequently in women who have born children, but is by no means confined to them. . . . . The chief causes are: parturition; delivery by forceps, falls or blows upon the coccyx; cold; exercise on horseback. For the symptoms, differentiation, etc., we must refer to the work in review. The treatment is radical, and consists in freeing the coccyx of all muscular attachments by a subcutaneous section, or in amputating the bone itself.

The fifth chapter, on "rupture of the perineum," presents the two operations respectively of BAKER BROWN and SIMS.

The sixth on vaginismus is fuller of the literature of the affection than is the chapter of SIMS on the same subject, but presents nothing in the way of treatment.

We pass over the chapters on vaginitis, atresia vagina, and prolapsus vagina, which are good, to come to that concerning fistula of the female genital organs. This chapter is the most complete monograph yet incorporated in any work on the subject. The history of the rise and progress of their treatment, the various methods adopted by surgeons of all nations, and the crowning triumphs of American genius as represented by I. MARION SIMS, are ably discussed and indisputably put upon the record by an overwhelming array of historical facts. As to the causes of vesico-vaginal and recto-vaginal fistulæ, the profession has arrived at the fact that they are, in a very large majority of cases, the result of *direct injury*. Formerly we were led to believe that this *direct injury* was produced in nine-tenths of the cases by instrumental interference, but now the converse seems to be true, for it appears from the cases gathered by BAKER BROWN, confirmed by SIMS, EMMET, BOZEMAN, AGNEW, THOMAS, and others, who have had large experience in operating for their cure, that a tardiness or non-use of the forceps, permitting a long con-

tinued pressure of the head to interfere with "the vitality of certain points of the vagina," developes a slough which terminates most frequently in fistula.

Dr. THOMAS says, "the truth with reference to this point should be well understood by every practitioner, for, unless it be so, an incompetent person may shield himself from merited blame by casting it upon a consulting physician, by whose efforts the lives of both mother and child have been saved, or a skillful operator may suffer unjustly in a suit for malpractice." It is a great pity that such eminent men as Prof. BEDFORD, of New York, should not have accepted these facts before publishing to the world an anathema against the forceps. Perhaps Prof. B. can be excused on the ground that younger and more energetic men had developed facts which were not in accordance with his preconceived theories, and, consequently, were consigned to an *inferno* of literary and scientific unnoticed doom, over whose portals they have written with DANTE: "*Lasciate ogni speranza che voi entrate.*" For statistics on these subjects we must refer our readers to BAKER BROWN'S Report to the Obstetrical Society of London, Obstet. Trans., vol. v., p. 28; to GARDNER'S Notes to SCANZONI, p. 503; to AGNEW on Vesico-Vaginal Fistula; to THOMAS himself, pp. 154–5, *et seq.*; to the monographs of SIMS, EMMET, and others.

By way of corroborating these facts, we should state that all of our educational trainings have been to "wait, wait, in obstetrical practice," never to use forceps if there was a possibility to do without them," etc., etc. These maxims are good, and, in the hands of our loved teacher, have served most excellent well; yet, on the other side of the question, we are told that "waiting," in a large majority of cases, was the cause of fistula. How are we to steer between Scylla and Charybdis? Skillful accoucheurs do use forceps, time and again, and produce no bad results; in their hands the instruments *never* have produced fistula. Thus, Dr. T. L. PAPIN, of this city, than whom a more honest and conscientious gentleman does not live, informs me that in the past twelve years he has used the forceps in about 220 cases of delivery, and has never had a vesico-vaginal or recto-vaginal fistula following their use. There is hardly a week in which Dr. PAPIN is not called in consultation with a brother practitioner, or by a midwife; and, in all of his cases of instrumental delivery, the only

harm done the mother was a laceration of the perineum in two instances. While we are no forceps advocate, as forceps are generally used, yet we are constrained to state that either Dr. BEDFORD has magnified their dangers, and has raised a ghost from a miller's sack, or that Dr. PAPIN is extraordinarily fortunate in his results, and a most skillful applier of the forceps!

We must now leave these digressions, and proceed to the twelfth and eighteenth chapters, inclusive, of our author's book, which treat of inflammation of the body and membranes of the uterus. Space does not warrant a critical analysis, and, in the main, we agree with him; but he is a little timid about the only positively absolute cure for *corporeal endo-metritis*, viz.: the injecting of the uterine cavity; however, as to general advice, we must say it is perhaps correct to err on the safe side by doing not enough, rather than to do too much. Uterine injections, like all uterine operations, require no small degree of care and skill; and all men, notwithstanding some of them write for the medical journals, and review all writers, and that unfavorably, particularly if their doctrines be new, are not endowed by Providence with sufficient judgment or skill to perform operations for which they make wholesale denunciations in others.

Prof. THOMAS's differentiations of *endo-metritis*, cervical and corporeal, and *metritis*, cervical and corporeal, are admirably drawn, and are the most original and ingenious propositions of the book; they stamp him not only as a scholar and an expert, but as a medical philosopher and pathologist of the first order.

The subject of ulceration of the mouth and neck of the womb is well handled, but not so fully as we would like to see it, although it is a step far in advance of the notions of the views of BENNET, NONAT, ARAM, and SCANZONI.

The "general considerations upon displacements of the uterus" is a chapter indicative of great research, and the libraries of Great Britain, France, and Germany have paid tribute to the industry and perseverance of Prof. THOMAS. His divisions of the causes of displacements are certainly based on the common sense of observation, and are, "1st, influences increasing the weight of the uterus; 2d, influences weakening uterine supports; 3d, influences pressing the uterus out of place; 4th, influences exerting traction on the uterus." And so apparent are these subdivisions, that a moment's reflection demonstrates the utter

absurdity of any one plan of treatment being relied on, or that any one should object to such procedures as experience has taught to result in amelioration or cure of our patient. That chapter on "inversion of the uterus" is particularly interesting, and as usual with all of Prof. THOMAS' writings the literature and history are most entertaining. To Dr. EMMET, however, are we as much indebted as to Prof. T. for the improvements in the treatment of this distressing condition, and we are glad to know that two such distinguished gentlemen as they, are willing to accord each other's claims for professional distinction—an honorable rivalry worthy of imitation!

The articles on peri-uterine cellulitis, pelvic peritonitis, pelvic abscess, pelvic hæmatocele, their diagnosis, differentiation, and treatment, are all that can be said upon the subject; and in these chapters we have systematized and brought to the crucible of severe synthesis and analysis the views of SIMPSON, BERNUTZ, GOUPIL, NONAT, NÉLATON, COURTY, and others.

Fibrous tumors and polypi of the uterus, with their pathological anatomy, pathology, and treatment, are succinctly and carefully handled, and, for a student's textbook, sufficiently so. Cancer, likewise, is studied in its various bearings, and all the information we have on the subject, up to present dates, given to the profession.

The functional disorders of the uterus he classes as "dysmenorrhœa, menorrhagia, metrorrhagia, amenorrhœa, sterility, leucorrhœa," and he very properly calls them symptoms rather than diseases. While we admit with him that dysmenorrhœa may be *neuralgic*, *congestive*, *inflammatory*, and *membranous*, yet we are disposed to believe that they are all but degrees of the *obstructive*; why we think such to be the fact, we have so frequently iterated and reiterated that its farther discussion would not be in place in this review. The subject of "amputation of the neck of the uterus" is still a mooted question, upon which we think Dr. EMMET disagrees with Dr. SIMS, and in which disagreement Prof. THOMAS, like Sir Lucius O'Trigger, does not interfere, but gives the various methods, and figures a very ingenious instrument, viz., Grennett's galvano-caustic amputating apparatus.

The closing chapters of the work are given to the consideration of the ovaries and their diseases, both medical and surgical. We

feel delighted that Prof. THOMAS' high authority goes to sustain us in some views which we have long held, that "ovaritis," pure and uncomplicated, is very rare. We have before enunciated this proposition, and still contend that an ignorant practitioner, one of the narrow-minded *anti-Sims-speculum* class, frequently falls back on "ovaritis," because he fails to properly diagnose conditions which the left lateral semi-prone position and the conjoined manipulation alone can develop with accuracy.

With regard to ovariotomy, puncture of ovarian cysts, tapping, etc., we must refer the reader to Prof. THOMAS' book.

We can not finish this incomplete review without complimenting the publisher, Henry C. Lea, of Philadelphia, for the handsome manner in which it is gotten up, in its typography, woodcuts, and binding; and, in conclusion, we believe this work will demonstrate that whatever claims the old world may have to superiority in the medical sciences generally, we of America certainly take the lead in gynæcology. M. A. P.

A MANUAL OF THE DISSECTION OF THE HUMAN BODY. By LUTHER HOLDEN, F.R.C.S., Assistant Surgeon of, and Lecturer on Anatomy at, St. Bartholomew's Hosp., London; with notes and additions by ERSKINE MASON, M.D., Demonstrator of Anatomy, Coll. Phys. and Surgeons, etc., etc., New York. Illustrated with numerous wood engravings. New York: Rob. M. DeWitt. 1868. 8vo., pp. 588.

[For sale by the St. Louis Book and News Co.]

We shall be glad to hear that this volume has been favorably received by those who are engaged in teaching practical anatomy. In clearness of description and pointed diction, in accuracy and reliability, we think this book is unsurpassed by any of its class. We believe to commit no injustice, however, in raising objection against its size. If it is chiefly intended, as the editor affirms, as a guide for use in the dissecting room, the book is too large and contains matter not strictly pertinent, and likely to divert the student's attention from his immediate purpose. We do not mean that the book is too diffuse—by no means; but some of the knowledge it imparts, no matter how valuable in itself,—such as digressions into physiology and remarks on surgical topics,—is not needed, and therefore out of place at the dissecting table, where a book should be opened only to obtain directions how best to display the parts, or in answer to a special question. But,

notwithstanding this, we agree with Dr. MASON, that it is "the best guide that has yet appeared."

The wood-cut illustrations are inferior in execution, yet they are perfectly plain and answer their purpose. Our objection to the size of the text applies to the number of illustrations also. The diagrams, such as figs. 7, 8, 11, 12, are eminently useful; but it might be well for the student of *practical* anatomy to pay closer attention to the plastic views displayed by his own dissections, than to those cuts in his manual which represent the dissected parts (e. g. figs. 1, 2, 3, etc). A few other wood-cuts (as figs. 86, 87, 89) are out of place, because referring to the minute anatomy of organs,—a subject foreign to dissection. When the time shall have come that American students of medicine generally have become accustomed to look upon microscopical anatomy and histology as a separate and important branch of study, which is no more to be neglected than descriptive anatomy itself, we shall probably see such subjects omitted from dissector's guides.

The paper, typography, and binding are very fair. G. B.

THE ENDOSCOPE, and its application to the Diagnosis and Treatment of Affections of the Genito-Urinary Passages. Lessons given at Necker Hospital by A. J. DESORMEAUX, Surgeon of the Hospital, etc. Translated by R. P. HUNT, M.D. (Reprinted from the Chicago Med. Journal.) Chicago. 1867. 8vo., pp. 108.

DESORMEAUX' lectures on the endoscope are valuable, not only as giving a complete exposition of the uses of a new instrument and the additional knowledge gained by means of it, but also as a very fair treatise on the diseases of the urinary passages. The translation is tolerable,—sometimes a little too exactly *etymological* at the expense of the meaning, an example of which is seen on the title-page ("lessons" as an equivalent for "*leçons.*") A singular error was committed by the author in leaving out the description of the apparatus itself, surely a most essential part of a treatise which is to introduce to the profession a new instrument.

G. B.

THERAPEUTICS AND MATERIA MEDICA. A Systematic Treatise on the Action and Uses of Medicinal Agents, including their description and history. By ALFRED STILLÉ, M.D., Professor in the Univeristy of Pennsylvania, etc., etc., etc. Third edition, revised and enlarged. In two volumes. Philadelphia: Henry C. Lea. 1868. 8vo. pp. 824, 864. Price: cloth, $10 00; leather, $12 00.

[For sale by Keith & Woods, Booksellers, St. Louis.]

The first edition of this valuable and practically useful work, appeared in 1860. Its unusual merit was recognized immediately, and not only in our own country. English and Scotch, French and German journals reviewed it and praised it highly. The first two issues have been some time exhausted, and this third edition is now put forth, enlarged, to bring it up to the times.

The substances more recently introduced into practice and now first spoken of by Dr. STILLÉ, are: chromic acid; permanganate of potash; the sulphites of soda, etc; carbolic acid; nitrous oxide; rhigolene; and Calabar bean.

At the same time additions to our previous knowledge of long used drugs seem to have been carefully recorded, so that the work is very desirable to those practitioners who recognize the necessity of keeping up with their profession in this important and fundamental part of it. For the benefit of those who have not examined the previous editions, we will say that Dr. STILLÉ imparts his information in a clear, sufficiently concise, and an interesting manner, the last quality being a rare one with writers on materia medica, by many considered the driest branch of medical science.

He particularly dilates upon the physiological action of medicines, detailing their effects upon the sound organism of the lower animals and of man, while he endeavors to report without bias the actual results of the experience of the profession in the use of the articles in disease. That he has performed this latter office with judgment seems to be the opinion of prominent scientific men.

At the time of our first turning over the book, we happened to be specially interested in the question of the comparative safety of anæsthesia by chloroform, and that by sulphuric ether. We will make a few quotations from Dr. STILLÉ, both to give a sample of his work, and to stimulate attention to a point not always

duly weighed. In the year 1847, and the date is of importance, M. LACH published nine cases, in which sulphuric ether was the immediate cause of death. In the same year the editor of the *Monthly Journal of Medical Sciences*, mentions five or six other cases, in which death was more or less dependent on ether, and still more can be found in the fifteenth volume of *Braithwaite's Retrospect*. Dr. P. F. EVE reported two in 1849. "VELPEAU and others have attributed most of these instances of mischievous effects, to the improper manner in which the ethereal vapor was administered, and it can not be denied that the criticism is, to a great extent, a just one. A portion of them also may be justly set to the account of the operation itself, which the several patients underwent, and to that shock to the constitution which is well known to be a source of fatal issues after operations performed, not only without the use of an anæsthetic agent, but in the absence of any influence whatever of a deleterious nature." In 1858, Dr. SNOW published in London a work on anæsthetics, and as a result of his examination into the question, "admits but two deaths which have been recorded as occurring *during* the administration of ether, and he adds, 'it is not probable that the death in either case was due to the ether,' but in the one, from the want of admission of sufficient air to the lungs, and in the other, from hæmorrhage."

In a treatise on surgical anæsthesia (1863), MM. PERRIN and LALLEMAND, "in a synoptical table of sudden deaths in the anæsthetic state, enumerate only three as being due to the inhalation of ether." It would appear that an investigation of reported fatal cases led to the disbelief in their authenticity.

Summing up this portion of the subject, Dr. STILLÉ says: "It may now be positively asserted, that since the proper mode of its administration has been understood, that is, since care has been taken to admit a sufficient proportion of atmospheric air along with the ether into the patient's lungs, there is not one authenticated example of its having destroyed life. This statement, which was originally made by us in 1860, continues to be true after the lapse of eight years. The only cases, which at first sight may seem to render it too absolute, are two in number. In one, the patient was an epileptic, and died in convulsions, without having lost consciousness. In the other, a child was choked to death by a piece of food which she vomited, while not yet unconscious.

The record of deaths from chloroform reads differently:

"As early as 1850 not less than forty-eight cases of death from chloroform had been published. During 1852 sixteen fatal cases were published, of which eight were in the United States and six in Great Britain, and four of them after the simple operation of drawing a tooth. In 1853 MR. CRISP collected forty-two cases of recorded deaths from this agent. In February, 1857, Mr. HOLMES gave fifty as the total number of deaths from chloroform in surgical operations; since which time we have found eighteen similar cases in the medical journals, and in a single one, for the first half of the year 1859, not less than seven cases. Yet, just before Dr. SNOW's death, in June, 1858, this gentleman stated the number of fatal cases at fifty. From 1858 to 1864 at least fifty additional cases of death by this agent were published. All of the summaries of such deaths professing to be complete are really very imperfect. Thus, in the voluminous treatise of MM. PERRIN and LALLEMAND, printed in 1863, a synoptical table is given of seventy-seven sudden deaths during anæsthesia from chloroform, in which four are set to the account of America. Yet, in 1861, Dr. C. T. JACKSON published a table containing nine such cases which had occurred in this country alone, not one of which is contained in the foreign list. In 1864 the list published by a committee of the Medico-Chirurgical Society of London, contained one hundred and nine cases; two years later SABARTH swelled it to one hundred and nineteen, and at the beginning of 1867 Dr. J. C. REEVE announced the dread total at that date to be one hundred and thirty-three."

A note quoted from Dr. REEVE informs us that, excluding the imperfectly reported and otherwise indecisive cases, we have remaining thirty-three, in which every precaution seems to have been observed, and no explanation of the death can be given in the present state of our knowledge.

Dr. STILLÉ discusses at considerable length the questions arising from the inhalation of chloroform, and expresses himself forcibly against the immorality of thus administering it. In fact, it seems to be settled that no medical skill can determine whether a patient will bear it safely, as it has proved fatal to some who appeared excellent subjects for it. It is also settled that no sure precautions to prevent death are known. It has caused death in experienced and skillful hands. It appears too to be generally

the case that the patient is not informed that death has in many cases resulted from the inhalation of it.

Supposing then that chloroform is administered in a case where it is practicable to give ether in its stead, by what casuistry can the surgeon, whether the patient escape the danger or not, excuse himself for subjecting to a definite and appreciable risk of death, one who has the most sacred claim to the conscientious use of his judgment on a matter in which he is morally bound to be informed?

We can find no satisfactory answer to this question. These considerations have led to the rejection of chloroform by a large number of the most experienced and judicious surgeons in the United States and by many in Europe, and, if they can not be opposed, should lead to its general rejection by all.

The information in Dr. STILLÉ's book is made unusually accessible by a table of contents and two indices, one giving an alphabetical list of the several articles of materia medica, and the other, under the names of diseases, giving lists of medicines and methods of treatment, with references to pages.

In the headings of the several articles we would have liked to see the course of Professor ASA GRAY in his Botany followed, and the pronunciation of the scientific names indicated by accents.

C. E. B.

MATERIA MEDICA FOR THE USE OF STUDENTS. By JOHN B. BIDDLE, M.D., Professor of Materia Medica and General Therapeutics in the Jefferson Medical College, etc., etc. Third Edition enlarged, with Illustrations. Philadelphia: Lindsay & Blakiston, 1868. 8vo. pp. 384.

[For sale by Keith & Woods, Booksellers, St. Louis].

The preface of this book tells us that some twenty enumerated substances of more recent introduction into materia medica are discussed in the present edition.

Turning to the article on carbolic acid, which is mentioned among them, we find that after stating that it is a "product of the distillation of *tar*," the author devotes not quite a page to the subject, stating neither the method nor the degree of the dilution proper to be used externally.

To the discussion of the sulphites and hyposulphites, fourteen lines are given. According to the preface, the hypodermic

method and the atomization of fluids are "treated of at length," but we are able to find but sixty-five lines of text and three wood cuts on both subjects together.

The illustrations of "most of the important indigenous and naturalized plants," etc., consist of twenty-seven wood cuts.

In view of the vast amount of physiological, chemical and botanical information connected with materia medica, we think it will be evident, that a work of so limited performance, although the author may make it useful to the hearers of his own lectures, can be of very little value to any other class of students of medicine. C. E. B.

ELECTRO-PHYSIOLOGY AND THERAPEUTICS; being a study of the electrical and other physical phenomena of the muscular and other systems during health and disease, including the phenomena of the electrical fishes. By CHARLES E. MORGAN, A.B., M.D. New York: Wm. Wood & Co. 1868. 8vo., pp. 714. Price, $6 50.

[For sale by KEITH & WOODS, Booksellers, St. Louis.]

This posthumous work of Dr. MORGAN gives evidence of the most careful and exhaustive study of the phenomena of electro-physiology as developed by the labors of the most recent investigators. The first eleven chapters, comprising nearly one-fourth of the book, are devoted to a carefully condensed statement of the laws of electricity and magnetism, and form, for the vast majority of readers, a necessary introduction to ELECTRO-PHYSIOLOGY, which is elaborately treated at a length of five hundred pages and which is really the proper subject of the book. The final chapter, of twenty-five pages, is devoted to electro-therapy, chiefly to the indication of methods of directing and regulating the electric current so as to act upon particular organs, and to a description of the galvanic cautery, but it is as far as possible from being a practical guide to the physician in the application of electricity to the treatment of disease. As an elaborate and truly scientific treatise on electro-physiology, this book supplies a real want in English literature, and we freely confess our incompetency to do it justice in a review; but we regret that the editor has seen fit to put it forward under a title which is certainly a misnomer, and which is likely to lead to grave misapprehension as to the real scope and purpose of the work. J. G.

Extracts from Current Medical Literature.

GENERAL PATHOLOGY AND PATHOLOGICAL ANATOMY.

1. *On the Nature of the Waxy, Lardaceous, or Amyloid Deposit.* By WILLIAM H. DICKINSON, M.D., etc. (*Medico-Chirurgical Transactions*, 2nd ser., vol. XXXII.: London. 1867).

[*Amer. Journal Med. Sciences*, April, 1868; p. 491.]

The author has had the opportunity of observing 60 cases of waxy or amyloid degeneration of the solid organs, and has found that in 46 of these cases there was a well-attested history of suppuration, and that in 4 others suppuration had probably preceded the outbreak of the disease. Comparing this result with those shown by the cases collected by Dr. WILKS (*Guy's Hospital Reports*, 1856 and 1865), and by Dr. STEWART (*Edinburgh Monthly*, 1861 and 1864, and *Brit. and For. Med.-Chir. Rev.*, 1866), he finds that, of 109 cases, suppuration had existed in 83: and the fact that these two gentlemen collected their cases without reference to antecedent suppuration, makes these figures more valuable.

In speaking of the test for this kind of degeneration, iodine and sulphuric acid, he says that he has never been able to produce the blue tint spoken of by VIRCHOW, but that a reddish-brown color followed their application to the diseased tissue, instead of the yellow color which is obtained normally. He has found, moreover, that we possess in sulphate of indigo as good a test as iodine; the healthy liver, when soaked in a weak solution of this salt, becomes of a blue color, which changes rapidly to green; but a waxy liver so treated retains the color. The colors obtained by iodine and sulphate of indigo are not destroyed if the affected tissue be soaked in alcohol, acids, or aqua ammoniæ, but fade when it is treated with a solution of caustic soda or potassa; and a waxy liver, first treated with a solution of either of these alkalies, fails to respond to either test. Dr. DICKINSON naturally infers from this that there is a deficiency of these substances in the organs which have undergone this form of degeneration, and this inference he proves to be correct by a comparison of the analysis of a healthy liver with that of a waxy liver; in the latter soda and potassa are found to be decidedly diminished in quantity, and this deficiency he explains by the suppuration. Pus, as is well known, contains both these substances in larger proportion than the

blood; here a drain of this kind can not long continue without the occurrence of the result above indicated. He thinks that the deposit in the organs consists essentially of dealkalized fibrin, and says that if fibrin be treated with dilute hydrochloric acid, and then the solution evaporated to dryness, a substance will be obtained which reacts with iodine precisely as the amyloid liver. He proposes to apply the term "Depurative" to the disease, as significant of the process which is its most frequent cause. The objection to the word is, as he himself says, its frequent use in another sense.

The practical deduction to be drawn from this paper is that the exhibition of alkalies is imperatively called for, not merely during the course of the disease, but also in all surgical affections which are accompanied at any stage by profuse suppuration.

2. *Hypertrophy of the Muscular Coat of the Small Arteries.*

[*British Medical Journal, Jan.* 18, 1868.]

A subject of much curious pathological interest and capable of wide physiological application, has been opened lately at the Royal Medical and Chirurgical Society. On Tuesday evening, Dr. JOHNSON exhibited numerous microscopical specimens, illustrative of a paper which he read there last December, on certain changes in the arteries in chronic Bright's disease. Many years ago, he observed and described thickening of the renal arteries in advanced kidney-disease, and lately he has found that this change is far more general, and that it extends to many tissues of the body. Sections of skin, intestine, and pia mater, were exhibited, which were taken from patients who had long suffered from Bright's disease, and in them, as well as in the preparations from the kidney, it was pointed out that the muscular coats of the smaller arteries were much increased in thickness, and this change seemed to have taken place in the longitudinal and transverse layers, but chiefly in the latter. In all, the hypertrophy was most marked just before the vessels break up into capillaries. In the kidney, the renal arteries—before they enter the Malpighian capsule—were much altered, and a similar process had occurred in the arteries of the other tissues. The various organs were not equally affected in the same case; in one specimen of pia mater taken from a woman who died of renal coma, and who was very delirious several days before her death, the arteries were clearly seen thickened; in another case of contracted granular kidney, the intestinal vessels seemed normal, while the subcutaneous arteries were hypertrophied.

Side by side with these morbid changes, were placed several specimens of normal arteries, and thus it was possible to see, by comparison, the nature and extent of the alterations that had taken place.

The preparations illustrated the facts urged by Dr. JOHNSON in his paper, that in many cases of advanced Bright's disease, when the left ventricle of the heart is much hypertrophied, there also is to be found a corresponding hypertrophy of the arterial muscular coats, not merely in the kidney, but in various organs of the body.

On these facts Dr. JOHNSON has based a theory, that these changes at the two ends of the arterial system are opposed to each other; that the primary change begins at the periphery, and then the central hypertrophy occurs as a consequence.

The theory usually accepted is that, in chronic renal disease, various constituents of the urine, which ought to pass away from the body, are retained in the blood, and that fluid, being thus altered in character, is rendered unfit to nourish the tissues properly, and so in passing through the systemic capillaries, it is more or less impeded. As a consequence, the heart has to beat with increased force, and becomes hypertrophied. In the kidney, it is believed that the increase of muscular structure in the small arteries aids the heart in propelling the impure blood through the capillaries; in other words, besides the central force, a local impetus is given to the flow of blood in the peripheral vessels, thus assisting the heart's action.

Physiologists have for some time believed that the small arteries have an important influence on the function and nutrition of an organ according as their muscular walls are contracted or relaxed. The tension of the arterial wall offers resistance to the onward flow of blood from the heart. If the tension be increased, as by contraction of the peripheral arteries, the heart's action becomes slow and laboured; if the tension be diminished, as in case of pyrexia, where the contractile coats are relaxed, the heart beats with increased frequency.

Dr. JOHNSON, applying these facts to pathology, sees in the hypertrophied small arteries a provision, not for sending more blood to an organ, but for checking its supply. He recognizes in this thickening a conservative process by which nature prevents a tissue from receiving too much morbid material. The altered blood, in passing through the small arteries, stimulates them to contract, and thus a kind of stop-cock action is maintained, and a regulating power placed at the end of the arterial system. Instead, then, of one assisting the other, we have two opposing forces; instead of the blood being impeded in the capillaries, it is partially stopped in the small arteries just before it enters the capillaries.

Dr. JOHNSON believes that the small arteries are tonically contracted, and this is confirmed by observations on animals; by the fact that, when cut, the jet of blood is a continuous stream; and by the phenomenon of blushing in which no pulsation is seen. Now, if the office of this peripheral hypertrophy were to aid the heart's action, it could only do so by contracting rhythmically and in an undulating manner; but as no such process can be observed, the facts, so far, tend to confirm the theory that, when a small artery contracts, it does so in its whole length, and, according as it is contracted or relaxed, allows blood to pass through with difficulty or ease. When it is hypertrophied, the flow of blood is much impeded, as the contractile power is increased; and, as a consequence, the heart has more work to perform, and the result is hypertrophy of the left ventricle.

On this theory there ought to be found some relation between the opposed hypertrophies. If the heart, free from valvular disease, be

increased in size, that increase must be due from some obstruction in the course of the circulation; and if the impediment be due, in certain cases, to change occurring at the peripheral end of the arterial system, the attention of pathologists will, in future, turn to the inquiry whether the facts observed are in accordance with the theory so ingeniously propounded by its author; and here a wide field of interesting research is thrown open to microscopic observers.

3. *On Ostitis, Caries, and Tubercle of Bone.* By Dr. RANVIER.

[*Archives de Physiologie normale et pathologique*, Jan.—Feb. 1868, p. 69.]

In this most interesting and thorough memoir, Dr. RANVIER attempts to describe and define (anatomically) the three important pathological processes of bone: inflammation, caries, and tubercle.

OSTITIS.—A simple irritation of bone, such as by being denuded, by wounds, or by foreign bodies, determines an overactivity of its cellular elements, and the lesions which supervene are the simple consequence of it, and do not differ essentially from those produced by the same causes in other tissues. The first phenomenon observed in a bone submitted to irritation is the formation of embryonic cells in the medullary spaces, in the Haversian canals, and under the periosteum. (These cells, which the author considers as embryonic, do not differ from white blood globules, or from those cells which, in the embryo, contribute to the formation of tissue. They are found also in healthy bone while in process of development, and only in the medullary spaces on the line of ossification). The formation of embryonic cells in the marrow is always accompanied by the disappearance of the fat cells,—a constantly occurring phenomenon in all formative irritation of whatever tissue,—and by a more or less intense hyperæmia, which gives the marrow its so-called inflammatory color.

But it is rare that ostitis confines itself to hyperæmia and the production of young cells. After a time there occurs an enlargement of the vascular canals, or of the spaces of spongy tissue, by progressive resorption of the osseous substance (*rarefying ostitis.*) The cause of this resorption is wrapt in great obscurity. RANVIER objects to all the hypotheses hitherto advanced, among others to that of WEBER, who "makes the resorption of bone depend upon a fatty degeneration of osseous corpuscles, and, like

the other German histologists, confounds caries with rarefying ostitis." In order that a resorption of bone may take place, it is indispensable that the latter preserve all its vitality. In fact, when the bone corpuscles have undergone fatty degeneration, as in caries, resorption of the trabeculæ is no longer possible.

If the irritation be sufficiently intense and persistent to determine the formation of a large number of the embryonic cells produced at the outset (and which can not be well distinguished from pus globules), there will be suppuration. The pus, once formed, can easily make its way out, if the ostitis is superficial (periostitis); but if deep-seated, it makes regular perforations along and through the diaphysis. The histological process which bores these holes from a deep abscess to the surface probably depends on an inflammatory rarefaction.

The exuberant formation of osseous tissue under the influence of irritation ("*condensing ostitis*") is always preceded by an abundant generation of embryonic elements. The irritation furnishes the materials for ossification, but these can not be utilized for the formation of new trabeculæ until the irritative movement loses its original intensity. The new tissue is not formed where the inflammation is most violent, but in the neighboring parts. The mode in which new layers of bone are developed does not materially differ from physiological ossification; but the condensation of the old tissue (sclerosis of bone, eburnation) is almost always preceded by an inflammatory rarefaction. This produces anfractuous cavities, containing embryonic cells, which, if not subjected to too much irritation, will serve to build up new layers to fill up the cavities. The characteristic "festooned" limit of the rarefying ostitis can be seen in bones which have undergone consecutive eburnation.

CARIES.—Surgeons call every suppuration of osseous tissue, accompanied by great friability, caries. The clinical reality of caries causes it to be described in surgical works apart from ostitis; some call it rarefaction ("*vermoulure*") of bone, others ulceration; some call it gangrene by small fragments, others inflammation. BILLROTH considers the name of caries as synonymous with chronic ostitis with loss of substance ("*fonte osseuse*"—"Schwund.") Thus it is made to embrace a good part of the diseases of osseous tissue.

Our author, on the contrary, has a very definite conception of

the disease. According to him, caries has two distinct periods. In the first, *the bone corpuscles undergo fatty degeneration without the least inflammatory phenomenon.* In the second, the osseous trabeculæ, having suffered death in their cellular elements, now constitute foreign bodies, and determine around them a suppurative inflammation. (This second period only has been known hitherto.) Caries, therefore, can no longer be called a simple ostitis; and, if inflammation plays a considerable part in it, it is not the principal part. The original fatty transformation of the bone corpuscles is, though little apparent, the true cause of these disorders.

TUBERCLE OF BONE.—The author explains that, in attempting the description of the tubercle of bone, he places himself on the standpoint of VIRCHOW, "to whom we owe the clearing up of this capital point of pathological anatomy." He knows of no author who, thus far, has followed the tuberculous process in bone with the aid of the microscope. The materials used by Dr. RANVIER were specimens of Pott's disease of the vertebræ, and subjects that died of pulmonary phthisis,—the latter, especially, of greatest interest, because they allowed him to study the tubercle of bone from its commencement, its formation and evolution. Bone tubercle, according to these researches, was rather common; and, if it is not often found, it is because no one thinks of examining the bones in consumptives.

An isolated tubercular granulation distinguishes itself from the red (a little violet and very slightly translucent) medullary tissue by characters so marked that it is impossible to mistake it. It forms a circular spot of one or two millimeters, completely anæmic and slightly translucent; its centre is often opaque, the marrow around it has taken a dark red color. (To make the gray granulation thus distinctly visible, the section should not be made with a saw, but by driving a blunt knife-blade into the bone with a hammer.) If many granulations are collected in the same medullary space, however, they cause anæmia of the intervening marrow, and can then be recognized only by the aid of the microscope. Confluent granulations form irregular islets, from three or four millimeters to several centimeters in size. The appearance of these masses can not lead any one to suspect their true nature, but the observer who has examined similar masses with the microscope. They are quite anæmic, granular, grayish, and translu-

cent; at some places there are very small, opaque spots; in older masses these spots, extending and finally coalescing, give the product the distinctly cheesy aspect. Usually the osseous beams enclosed in the cheesy mass appear unaltered. The cheesy portions are bordered by a thin, anæmic, translucent (inner) zone, and a deep red outer zone, gradually merging into the violet colored medulla.

An isolated granulation presents under the microscope the following characters: At its periphery the marrow no longer contains fat cells, the blood vessels are dilated, and there is around them no connective tissue; this zone of irritation often extends over several areolas of spongy tissue, and the osseous trabeculæ appear eroded; in fact, it is apparent that an ostitis precedes the tubercles. The tissue of the granulation itself is composed of small refractive cellular elements, gradually diminishing in size from the periphery of the granulation towards its centre. In the centre of the granulation the section of an obliterated blood vessel is often found.

Every tubercular granulation developed in bone leads to obliteration of the vessels passing through it. If several granulations are imbedded in the same space, they will obliterate all its vascular branches; and all those portions of bone in which circulation is thus arrested, will undergo caseous transformation, for the same reason that an infarctus becomes cheesy.

The bone corpuscles do not take part in caseous dissolution of the medullary elements; their nuclei become irregular, but there are no fat globules around them. This serves to distinguish the caseous transformation after confluent tubercles from that which accompanies caries.

MATERIA MEDICA AND THERAPEUTICS—TOXICOLOGY.

5. *Physiological Action and Therapeutical Uses of Conium, Belladonna, and Hyoscyamus, alone and in combination with Opium.* Gulstonian Lectures, by JOHN HARLEY, M.D., F.R.C.P., etc. [Continued from page 275.]

[*British Medical Journal*, April 11, 1868.]

HYOSCYAMUS.—Hyoscyamus, or its active principle, when given in small doses, and such as are insufficient to produce positive dryness of the mouth, rapidly subdues ordinary excitement of the pulse, and reduces

it, within an hour or two, to its slowest rate; that is to say, to that condition in which it may occasionally be found after a long period of complete rest of mind and body. For example, the pulse of a man ordinarily engaged shall be 80. After a small dose of hyoscyamus (one-fortieth of a grain of sulphate of hyoscyamia, or four drachms of tincture of henbane), it will gradually fall to 60 or 50. In another person, whose pulse may be 72, we shall at the end of the same time find it steadily beating about 45. SCHROFF states that the three hundred and thirty-third of a grain of hyoscyamia reduces the pulse from 79 to 18. In all my experiments with hyoscyamus and its active principle, I have never observed the pulse to fall lower than 42.

After doses (one-sixteenth to one-twelfth of a grain) sufficient to produce complete dryness of the tongue and hard and soft palates, the pulse will generally experience an acceleration of ten or twenty beats, and be increased slightly in force and volume. This change in the pulse will be observed in from ten to twenty minutes after the subcutaneous injection of hyoscyamine; the acceleration does not usually continue for longer than twenty or thirty minutes, and rarely lasts for an hour. Then the pulse slowly declines, and gains a little in force and volume. It usually decreases about five beats for every interval of twenty or thirty minutes, until, at the end of from an hour and a half to two hours, it attains its minimum rate. Apart from these accelerating or depressing effects upon the pulse, the following symptoms will be observed after moderate doses (one-thirtieth to one twenty-fourth of a grain). In ten to twenty minutes from the time of injection, the tongue more or less completely dry, rough, and glazed, excessive giddiness and a weight across the forehead, somnolency, the cheeks occasionally a little flushed, and the membranes of the eye sometimes slightly injected. After continuing for about an hour, these symptoms pass off; and the tongue and soft palate become covered over with a sticky, acid, offensive secretion, agreeing in all respects with that observed after the action of belladonna. The pupils slowly dilate during the latter part of the action of the medicine, and at its close attain their maximum degree of dilatation.

If larger doses than one-twelfth of a grain be given, the above mentioned effects will be increased in degree, and prolonged for two or three hours; and they will be accompanied even by wakeful, quiet, and usually pleasing delirium, with illusions of the sight; or with such excessive somnolency that the patient can not keep the eyelids raised for a few seconds, but, when aroused, lapses again into a dreamy sleep, broken by occasional mutterings and slight jerking of the limbs. In either case, the power of maintaining the erect posture will be lost, and at best the patient reels like a drunken man.

When taken by the mouth, hyoscyamus, or its active principle, produces exactly the same effects. They are fully developed about an hour after the ingestion of the medicine. . . .

Children will usually bear a very large quantity of henbane. I have frequently given a fluid ounce of the succus, or tincture, to children under 12 years old, with an acceleration of the pulse thirty or forty beats, con-

tinuing for an hour and then gradually declining; and, towards the end of the action, a moderate dilatation of the pupil. The mouth has remained clean and wet throughout; and there has been no trace of giddiness or sleepiness. . . .

In its action upon the system, hyoscyamus appears to be intermediate between opium and belladonna, possessing as it does, on the one hand, powerful somniferous properties second only to opium itself, and, on the other, an influence upon the sympathetic nervous system, as indicated by the pulse, secondary only, when given in larger doses, to that possessed by belladonna itself.

Compared with belladonna, it is distinguished by a preponderance of delirium or somniferous properties. Compared with opium, it agrees, on the one hand, very closely with that drug in its cerebral effects, provided we take a wide view of the operation of both medicines upon the system; while, on the other, its influence upon the pulse, upon the mucous membrane of the mouth, and upon the pupil, place it in strong contrast with that drug. In addition to its cerebral and sympathetic effects, henbane has a powerful depressent influence upon the motor function, and thus comes into relationship with conium.

I have referred the chief effects of belladonna to its stimulant action upon the sympathetic nervous system; and it can not be doubted, I think, that the more obvious effects of hyoscyamus arise from the same cause; but the stimulant effect of hyoscyamus is, comparatively speaking, of so short a duration, that this action, as indicated by the condition of the urinary secretion, is not very manifest.

Hyoscyamine, however, like atropia, is eliminated by the kidneys. It may be detected in the urine at any time during the operation of the medicine. . . . The urinary constituents themselves do not appear to undergo any diminution nor increase during the operation of hyoscyamus. . . . The fact of the passage of hyoscyamine and atropia, in an undecomposed state, through the urinary tract in their passage out of the system, leads me to the consideration of the influence of these medicines upon the bladder and kidney itself. At the end of the operation of belladonna or hyoscyamus, many individuals altogether fail to pass a single drop of urine, and this retention is often prolonged for several hours; but never, when the bladder is in a healthy condition, causing any inconvenience. Sometimes, after prolonged efforts, the patient is able to eject a little urine, a few drops at a time. On three occasions, in adult males, I have been obliged to remove the urine, for the purpose of examination, by means of the catheter; in each case the No. 11 instrument passed with the utmost facility, and, on withdrawing the stylet, the urine flowed in a sluggish, powerless stream, and there was little or no indication of any contractile power behind it. It is plain, therefore, that the proper sensibility of the mucous surface of the bladder was blunted by the contact of the atropia or hyoscyamine, and thus the natural stimulus to contraction was removed.

From these facts, we can readily understand the beneficial influence of these medicines upon that irritable condition which keeps the bladder in

a constant state of contraction. In all irritable conditions of the kidney, and especially in the oxalic and uric acid diatheses, henbane is invaluable; but I can not tarry to adduce particular evidence of the statement. Nor will my limited space permit me to say more of the therapeutical use of henbane. I must proceed at once to consider the interesting and important question of the combined action of the two plants—belladonna and hyoscyamus repectively—and opium, within the body.

First, with regard to the *combined operation of belladonna and opium.* There are a number of persons who accept the general statement, deduced from a number of observations the majority of which are very loosely reported, that belladonna is antagonistic to opium, and *vice versa;* and they would not hesitate in a case of poisoning by either of these drugs to give at once an equally poisonous dose of the other as an antidote. I have no time at present to criticise the cases from which such conclusions have been derived; but feeling that the whole question required most patient and careful examination, I have devoted much time during the past year to its elucidation. My observations have been made upon the horse and dog, and upon man. . . .

The conclusion to be derived from these experiments is clear, positive, and unmistakable. It is evident, first, that a small dose of morphia, which alone has no appreciable effect upon the horse, will, when combined with a given dose of atropia, not only intensify, but greatly prolong each and all of the effects of the latter medicine; and, secondly, that atropia on the other hand, greatly prolongs and intensifies the excitement and delirium which are the chief effects of opium upon the horse.

The experiments upon the dog were peculiarly instructive. . . .

It is quite clear, from these experiments, that in the dog opium and belladonna do but intensify each other's action; and that, while the former has no influence whatever in controlling or altering the action of the latter, atropia actually possesses the power of increasing the hypnotic action of opium. This, it is to be observed, is a conclusion directly the reverse of that accepted by those who believe in an antagonism between opium and belladonna. And it is further to be observed, that this supposed antagonism of belladonna to the hypnotic effect of opium constituted the essence of this belief.

In turning now to the consideration of the combined operation of opium and belladonna in man, I must first concede that belladonna possesses an antagonistic influence to some of the earlier effects of the operation of opium. The first effect of opium, in many animals as well in many of human kind, is a derangement of the vagus nerve, resulting in nausea and retching, faintness, and depression of the heart's action. The dog invariably vomits within five minutes of the subcutaneous use of morphia; and, in my own practice, I have had four or five patients in whom the subcutaneous use of seven drops of laudanum, or of one-twelfth of a grain of acetate of morphia, has produced faintness, nausea, ending in vomiting and retching, with intervals of delirious somnolency for eight or nine hours. By repeated experiments upon these individuals, I have found that the previous or simultaneous use of a small dose (one ninety-

sixth of a grain) of sulphate of atropia entirely prevents these distressing and often alarming symptoms: and I have even arrested them after they have been fully developed by the subsequent use of the atropia. It is by virtue of its powerful stimulant effect upon the sympathetic nervous system, that the derangement of the vagus nerve, causing the above mentioned symptoms, is overpowered. This is a most important fact; for, by the help of atropia, we may, I believe, bring *all* individuals alike under the beneficial influence of opium. The only question of antagonism that now remains, is that which might be supposed to result from this same stimulant effect of belladonna upon the heart, and it may be asked, "Would not this action alone be sufficient to arouse a patient in whom the pulse and restoration were well nigh obliterated by the effect of opium?"

I answer, inasmuch as belladonna has no stimulant action upon the vagus nerve, and therefore no influence upon respiration, no other result can be expected from the operation of belladonna, in a case of poisoning by opium, than that which would follow its administration in any other similar case of depression of the cardiac and respiratory functions. It will doubtless arouse the heart, but there is little hope of increasing the breathing; while, on the other hand, the atropia, if given in a large dose, will only deepen the stupor. As a cardiac stimulant, the dose should never exceed the ninety-sixth of a grain, repeated at an interval of an hour and a half or two hours.

. . . The combined operation of opium and belladonna upon man . . . is precisely such as I have already described as occurring in the dog. . . . Experiments . . . conclusively prove that in man also opium and belladonna have not the antagonistic action which has been attributed to them. . . .

Opium does not prevent nor retard, so far as I have been able to determine, the elimination of atropia from the system. . . .

The *combined operation of hyoscyamus and opium* presents some interesting features. Briefly, they are as follows: 1. Opium prolongs and intensifies the effect of hyoscyamus, even to producing an acceleration of the pulse some 15 or 20 beats for an hour or more. 2. Hyoscyamus increases the hypnotic action of opium, and to a certain extent is able to prevent the derangement of the vagus nerve, which is frequently the first effect of opium. 3. Opium, given in combination with hyoscyamus, does not prevent the elimination of hyoscyamia by the kidneys.

6. *Sulphate of Nickel in Neuralgia.* By J. Dabney Palmer, M.D., Monticello, Fla.

[*Richmond Medical Journal*, April 18, 1868.]

The interest of the following remarks does not lie in the employment of the sulphate of nickel in neuralgia, but in its therapeutic effects. We are told that it is a gentle tonic, acting like the preparations of iron and quinia. In this case, however, it seemed to exercise a sedative influence, more closely resembling that of the bromide of potassium.

Mrs. B. has suffered with neuralgia more than three years. During the last two months the paroxysms have been very violent and frequent—occurring every few minutes. She has taken iron, quinine, arsenic, strychnine, colchicum, aconite, morphine, chloroform, valerian, zinc, mercury, electricity, and many other remedial agents, with only temporary relief. As Prof. SIMPSON had used the sulphate of nickel successfully in a case of severe and obstinate periodic headache, I concluded to try it, and began February 19th, giving her half-grain doses three times a day. In less than a week the paroxysms were reduced to only one within twenty-four hours; this came on at noon. On last Sunday (March 1st) it did not commence until about 3 P. M. I was present, and gave one grain of the sulphate, notwithstanding she had taken her regular doses that day. Its sedative action was speedily manifested in reducing the pulse and producing sleep. All symptoms of the paroxysm disappeared, and Mrs. B. states that they did not return until 7 o'clock. In this case the sulphate of nickel has given more permanent relief than any thing else; Mrs. B. tells me that it soothes her quicker than morphine, and is not followed by any unpleasant effects.

7. *Glyconine.*

[*Archives gén. de Med.*, May, 1868; p. 610.]

For several years an emulsion of the yolk of egg and glycerine has been used in medicine and for various toilet purposes, to which the name of *glyconine* has been given, to recall its origin. The yolk of egg contains a considerable quantity of fatty oil (called *huile d'œuf*), now too rarely used medicinally. Glycerine does not dissolve fatty substances, but still, brought in contact with the yolk of egg, the two bodies seem to dissolve; a most intimate mixture is formed and remains transparent. M. EDM. SICHEL, the originator of this preparation, attributes this transparency to the fact that the fat globules have about the same degree of refractive power as the glycerine in which they are suspended.

Glyconine has the consistence of honey, becomes cloudy on being agitated with water, and then changes into an opaque emulsion. It will keep almost indefinitely, which must be attributed to the eminently antiputrescent power of the glycerine. That which is ordinarily used is the product of an intimate mixture of four parts of yolk of egg with five parts of very pure glycerine. It is beginning to be used pretty extensively in the hospitals for dressing burns, erysipelas, fissured nipples, and various cutaneous affections.

Meteorology at St. Louis.

METEOROLOGICAL OBSERVATIONS AT ST. LOUIS, MO.

By A. WISLIZENUS, M.D.

The following observations of daily temperature in St. Louis are made with a MAXIMUM and MINIMUM thermometer (of Green, N. Y.). The daily minimum occurs generally in the night, the maximum about 3 P. M. The monthly mean of the daily minima and maxima, added and divided by 2, gives a quite reliable mean of the monthly temperature.

THERMOMETER FAHRENHEIT, 1868.

	MAY.			JUNE.	
Day of Month.	Minimum.	Maximum.	Day of Month.	Minimum.	Maximum.
1	60.0	89.5	1	64.5	86.0
2	61.0	80.5	2	68.5	91.5
3	67.0	86.5	3	60.5	75.0
4	61.5	73.0	4	62.5	81.5
5	64.0	**90.5**	5	71.5	89.0
6	57.0	81.0	6	64.5	79.5
7	47.0	58.0	7	56.0	76.5
8	**44.5**	72.5	8	56.0	86.5
9	52.0	82.0	9	59.5	72.0
10	56.0	70.0	10	52.5	77.5
11	53.5	64.5	11	54.5	81.5
12	53.0	66.5	12	60.0	87.5
13	47.0	62.5	13	65.0	87.5
14	49.0	56.5	14	67.0	92.5
15	50.0	77.5	15	72.5	96.5
16	55.0	77.5	16	73.5	98.5
17	53.5	72.5	17	75.0	98.5
18	50.0	73.0	18	74.5	**99.0**
19	47.5	74.5	19	76.0	93.5
20	50.5	74.5	20	66.0	76.5
21	51.0	76.0	21	55.5	63.5
22	51.0	78.5	22	**50.0**	77.0
23	56.0	79.0	23	53.0	82.5
24	57.5	83.5	24	57.5	85.0
25	61.0	87.0	25	60.5	88.5
26	65.0	87.0	26	62.5	86.0
27	63.0	86.5	27	60.5	88.5
28	61.0	86.5	28	68.5	84.0
29	57.0	79.5	29	69.5	88.0
30	59.0	81.5	30	70.0	94.5
31	64.5	87.5			
Means....	55.6	77.3	Means....	63.9	85.5
Monthly Mean...	66.5		Monthly Mean...	74.7	

REPORT OF ATMOSPHERIC ELECTRICITY, TEMPERATURE, AND HUMIDITY.

BASED ON DAILY OBSERVATIONS at 6, 9, 12, 3, 6, AND 9 O'CLOCK, FROM MORNING TILL NIGHT, AT ST. LOUIS, MO.

1.—*Monthly Mean of Positive Atmospheric Electricity.*

Year	Month.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.	Mean in 8 years.	No. of Thunder Storms.	Prevailing Winds.
1868	May.	0.6	0.8	1 8	1.3	1.0	1.1	1.1	4.3	6	SE., NE , NW.
1868	June.	0.5	0.2	0.0	0.8	0.5	0.4	0.4	2.7	4	SE., S., NE.

2.—*Monthly Mean of Temperature, Fahrenheit.*

Year.	Month.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.
1868.	May.	60.2	68.4	74.1	73.7	69.6	64.2	68.4
1868.	June.	67.7	78.7	82.4	84.2	76.6	72.0	76.9

3.—*Monthly Mean of Relative Humidity.*

1868.	May.	79.7	62.6	55.2	52.2	64.2	74.6	64.7
1868.	June.	78.0	57.5	52.4	49.4	52.5	74.6	60.7

The mean temperature of May, 1868, was 66.5, Frh. The average for 30 years, 66.3.

The temperature of June, 1868, was 74.7. The average for 30 years, 74.4.

The temperature for May and June was therefore the usual one.

The rain in May, 1868, was 3.96 inches. The average for 30 years, 4.94 inches.

The rain in June, 1868, was 1.58 inches. The average for 30 years, 5.66 inches.

Both months were therefore drier than usual, giving us only about half of the usual quantity of rain. Nevertheless, the general health of the city has been better than is common at this season of the year. The positive electricity of the atmosphere has been less than I have ever observed; partly, perhaps, on account of the many thunder storms that have prevailed throughout the western country, but outside of St. Louis, and that have attracted electricity more to those favored localities.

The protracted warm and dry season has no doubt favored also the procreation by millions of the so-called "locusts," that have disappeared now, but left their eggs behind them and ruined many young orchards.

Editorial.

DR. WATTERS' DOCTRINES OF LIFE,

Presented in reply to DR. CARPENTER'S Letter published in the last number of this Journal.

We have received from Prof. WATTERS the letter and accompanying lengthy argument which we publish below. As it might appear that, in giving it a place in our columns, we swerve from our determination to exclude all matter of personal controversy, we seem to owe our readers an explanation.

It has long been a subject of complaint, even among those of Dr. WATTERS' friends who are well acquainted with his views,—still more among his numerous pupils,—that these doctrines are not accessible in a collected form. We find that the communication we have just received is as able and concise an explanation of his views as can be desired, besides affording the reader an opportunity of comparing them with the doctrines of life which have been developed by men equally learned and more widely known.

On its scientific merits, as well as on its character as an able historical document upon the special question at issue, we base our justification in devoting the required space to this communication. Dealing, as it does, with points fundamental to all physiological teachings,—with doctrines of life;—dealing with them in a true spirit of scientific inquiry,—we are convinced that the reader will gladly bear with whatever little there is of personal controversy in it. If the latter were the predominant feature, we would not have published it; for we reiterate the rule laid down in our prospectus on assuming editorial control of the Journal, that "*all matter of unfruitful controversy will be excluded from its pages.*"

ST. LOUIS, June 27, 1868.

To the Editor of the St. Louis Medical and Surgical Journal:

SIR:—As Dr. CARPENTER's letter, written to you for publication and contained in the last No. of your journal (May and June), in regard to certain animadversions I saw fit to introduce into a lecture to our students in regard to him, published in your journal for Jan. and Feb., 1868, is of such a character as to make a reply from me necessary, I respectfully ask the insertion of the following communication in the next number of

your journal. Knowing full well that the value of property is first to be established before there can be any general interest in its ownership, I do not ask to occupy the pages of your journal with the unprofitable discussion of mere *priority*, but desire to present from the *records*, the data upon which my strictures in that lecture were based, and are still maintained. As these records are not generally accessible to your readers, I believe this will not be uninteresting.

Very respectfully,

Your obedient servant,

J. H. WATTERS,

Prof. Physiol., Pathol., and Clin. Med. in the Missouri Med. College.

In the year 1849 I commenced attendance upon medical lectures in the University of Pennsylvania, being already somewhat imbued with the principles of mathematics and natural philosophy by previous studies. With these principles, which I considered immutable, I could not reconcile much that was then being taught me. For instance, I could not see *clearly* how matter could be inert and at the same time *endowed* with active properties. At that time the only works of Dr. CARPENTER to which I had access were his "Human Physiology" (our text book) and his article "Life," in the Cyclopœdia of Anatomy and Physiology. In this last the doctrine which he advocated was, *that matter capable of assimilation is endowed with dormant vital properties which are developed by the act of organization.* Here we had not only inert matter with active properties, but with active properties *dormant!* In our text book (fourth American edition, 1849, § 255,) I found the following: "If change be essential to our idea of life, it may be asked, what is the condition of a seed, which may remain unaltered during a period of many centuries; vegetating at last, when placed in favorable circumstances, as if it had only ripened the year before. Such a seed is not alive; for it is not performing any vital operations. But it is not dead, for it has undergone no decay; and it is still capable of being aroused into active life, when the proper stimuli are applied. And the most correct designation of its state seems to be that of *dormant vitality.*" This was the straw which broke the camel's back: and I here thank Dr. CARPENTER, not only for this, but for many really positive benefits. Here we had the seed neither *dead* nor *alive*, but its "vitality" was "dormant," needing only "stimuli" to "arouse" it! Convinced as I was of the absolute truth of the principles which had been taught me in mechanics and in natural philosophy, I confess that all this seemed to me even worse than jargon, appearing as it did in our text book on *Physiology.**

My reflections here, thus excited, were after this manner: What are these stimuli? What is the difference in the conditions of a grain of corn in the granary from the conditions when it is germinating? The seed that is germinating is under the influence of *moisture*, in addition to the heat and air operating upon the dry seed in the granary. But heat, air,

*See also even the last English edition (1864) of his "Human Physiology";—note on page 2.

and *moisture* tend to cause decay in organic matter—to cause organic compounds to resolve back into the inorganic! How is this, that these same conditions of destruction should be the conditions of life, development, and growth, when they act upon the seed, if there had not been in the seed all the time some "force" to resist their natural tendencies, which they "stimulate" into "activity"? Air, heat, and moisture can not have the power of discretion or will. Then they must act upon the seed as upon other organic matter, and the difference of behavior must depend upon somewhat connected with the seed. But this *somewhat* can not be a "dormant" force, or "dormant vitality," for that is absurd and contrary to what is received as first principles in natural philosophy. But hold! do not the motions of the clock depend upon the conditions of gravity acting as elsewhere? And does not the clock move only as the weights descend? Then why may it not be with the seed as with the clock, that that which determines its peculiar behavior is the form, the adjustment, the organization? The somewhat peculiar in the seed then would be, not a "dormant vitality," but a peculiar *form*. If the weights (gravity—the downward tendency) be taken away, the clock will not move; so, why may not life and decay be reciprocal?

This reflection occurred first in the form of a query; but, like a flash, it assumed the appearance of a great truth. It was to me as real (for I believed it) that I had struck the key note to which the harmony of all nature is accommodated; the fundamental tone which would remove the ancient discord and bring the principles and laws of life and of chemistry in tune with the principles and laws of mechanics and natural philosophy. That such concert was, in truth, in all nature, was as an instinct, whether I or any one else had caught the tune or not. Thus sprang my thesis, which was an attempt by arguments, by illustrations, and by an application to various vital phenomena, to develop this conception. Yet appreciating its imperfections, especially in modes of expression, I did not have the boldness to offer it to any medical journal for publication; but at the same time believing that it contained the *germ* of a great truth, I had it published on my own responsibility, knowing that if I was not mistaken it would bear fruit, though after many days. I then and there determined to devote myself to that line of study, that I might some day be able to present it to the world in a form worthy of the subject and of the audience.

I now propose to establish that my animadversions in regard to Dr. CARPENTER, to which he objects in his letter, were not made hastily or "in ignorance of the facts;" but that they are justified in every particular by the records. The argument will contain just four points, which I will state briefly:

First. From my thesis, published in 1851, and from a series of articles subsequently published in the *St. Louis Medical and Surgical Journal*, I shall reproduce sufficient to show my annunciation and elucidation of the position that life and decay are reciprocal; that the form or organization determines the *direction* of those peculiar actions called vital, while those same actions are reciprocal with a "*downward*" process, as in machines of art.

Second. From the memoir on the "Mutual Relations of the Vital and Physical Forces," published in the "Philosophical Transactions" for 1850, and from editions of his Physiological works, subsequently published up to 1864, I shall quote sufficient to show that Dr. CARPENTER, during that period, held that the "vital forces" are "correlative" with the physical, and with each other, and that in the *elaborate discussion* of this doctrine, referred to by him, he maintained that these "vital forces" thus "metamorphosed" from "heat and light" by the organism, as the "*material substratum*," *are the cause both of the motions and of the specialty of the vital motions.* Thus making his vital forces abstract unities, yet differing from each other and susceptible of being metamorphosed!

Third. From his writings in 1864 I will quote sufficient to show that Dr. CARPENTER, in these "recent works" annunciates the doctrine that the "germ" or "organism" gives the "*directive agency*," while "decay" or destructive metamorphosis gives the "*motor*" to the vital motions.

Fourth. I shall show that this late position of Dr. CARPENTER, is an abandonment of his "correlation theory," as developed in 1850 and for the next fourteen years; and that it is *in many respects* "identical" with the theory which I published in 1851 and subsequently.

If I am not at fault in my confident belief that the records will support this argument in *every point*, then it will appear that Dr. CARPENTER is most unfortunately at fault in his letter, in every particular. He is at fault in supposing that I make "claims as an originator of the doctrine that the so-called vital forces are correlated to the physical." I have never alluded to that doctrine *as developed into a theory by its advocates*, except in connection with criticisms which I consider fatal to it as a theory. The paragraph in which he is alluded to in my lecture is in the midst of such a criticism. He is at fault in his objections to my reference to his "recent works alone;" for in these alone does he adopt my views, and as these views are an abandonment of his correlation theory, he is equally at fault in referring them back to his memoir of 1850, "with such *modifications* as the advance of science has suggested" to him. He is no less at fault in assuming that I called in question his "reputation for truth and honesty." The question was merely in regard to *justice* to myself; and I did not go behind the facts to impugn his motives, with which I had nothing to do, and which had nothing to do with that question. As there was another horn to the dilemma in which he had unfortunately allowed himself to be placed, no system of logic would justify his selecting one to answer, and at the same time leaving the other untouched. If he had treated the other alternative in a way which I believe he might truly have done, no doubt this communication would have been uncalled for, and he would not have felt the necessity of sustaining his "reputation for truth and honesty" by argument; but as *he* elected it rather to impute my remarks to an "ignorance of the facts in the case," nothing is left me but to present to the world the facts, that it may judge between us.

FIRST POINT OF THE GENERAL ARGUMENT:—FROM MY OWN RECORD.

(A) From "An Essay on Organic or Life Force; written for the Degree of Doctor of Medicine in the University of Pennsylvania. By J. H. WATTERS, A.B." Philadelphia: Lippincott, Grambo & Co. 1851. 8vo. pp. 36.

It is not attempted here to present the full scope of the argument in this essay, but only so far as relates more *immediately* to the point at issue. After some preliminary remarks the essay proceeds:

The machines of art are but the means by which *man* takes advantage of the laws of matter to obtain certain objects. He can no more obviate these laws, or add anything to them, than he can create a universe. An organism is but a machine, by means of which the Creator himself takes advantage of the laws with which he has endowed matter to effect certain objects which are the designs of God and not of man. It would be of no advantage to know whether living beings were the object for which matter was created with its existing laws and properties, or whether there was no such object in the Creator's mind; and this is not a subject of investigation, though it may be of speculation. It is enough for us to know that the organism is a machine which acts in perfect accordance with the laws of matter; and is not overruled by some unknown independent agent—the "vital principle;" that life is the necessary result, when the organism is placed under the proper conditions; and that this result grows out of the particular combination of the matter constituting it. But if there is no mysterious agency in the living organism to make its actions different from that which would result from the properties of the matter constituting it, then the principles upon which this organism acts are as much open to investigation as that of any other piece of machinery; but it is more difficult, as its actions are more complex.

Taking this view of the subject, I shall venture to offer the following proposition, and shall give a few arguments in support of it, which have been sufficient to convince me, at least, of its truth.

Life, or the Actions of an Organism, are produced by Forces which are evolved in the decomposition or decay of that Organism. [By the word "Organism" is meant all that normally enters into its unity or totality. When we say a cell is an organism, we mean not only the special forms which may be determined by the microscope, but, no less, the contained fluids, granules, etc.,—the totality; so the compound organism, man, includes not only the "solid forms," but the contained fluids, nutritive juices, etc.,—that is, the whole negative unity.]

When we look into the organic world, it is observed that the natural tendency of all organic matter, under the influence of the external conditions of life, is to resolve itself into simpler compounds; but in the living organism there is an action directly contrary to this observed natural tendency. It was, no doubt, from this *apparent* reversal of the laws of matter, that first originated the idea of an independent agent residing in the system, whose office it was to overrule these laws, and give direction to vital actions. It is, no doubt, from this, that even to the present time, the "vital principle" enters into the explanation of all vital phenomena. The attention of physiologists has been almost exclusively directed to the building up of the organism. Disintegration has been thought worthy of attention only as it is modified by this "vital principle," or, as it makes continued nutrition necessary. As decay is common to all organic matter, the attention has been diverted from this to organization, which is peculiar to living beings; and nutrition is looked upon only as a means of "counteracting" the "destructive" tendency to decay, rather than as affording a necessary condition to continued decay. Though we can not conceive the existence of a living being without change, yet this tendency

to change has been considered destructive, rather than essential to life. It is thought that it will appear from what is to follow, that the arrest of the natural laws of matter in a living organism is more apparent than real; that vital actions are as much the result of these natural laws as are death and decay; and that death and life have the relation to each other of antecedent and consequent. Though death is so common and so *natural* that we are accustomed to look upon it as a matter of course, yet it is no less difficult to tell why we die than why we live; both are but evidences of the Creator's will. We are constantly dying while we are living, and to arrest decay would be to arrest life. * * * *

While the views contained in this article are directly opposed to the theory of a "Vital Principle," they are equally opposed to the theory that *matter was originally endowed with vital properties*, which *are developed by the act of organization*. These views are, that in an organism the act of resolution of a complex into simpler compounds evolves forces which give direction to chemical and organic actions, and, as life is the result, the terms Organic, Germ, or Life Force may be employed to indicate the resultant of these forces. This force is produced when the conditions of life—the germ, air, heat, and a fluid plasma—co-exist. If the above proposition be true, life is not derived from the parent, but originates in the changes which take place in the Germ itself. It has been the doctrine of some that *germ force* is derived from the male parent; of others, from the female; while others again hold that it is produced by both parents at the same time, and by the same act that the germ is. But there are reasons to believe that *germ force* is no more derived from either parent than galvanic force is derived from the individual who constructs a battery. * * * * * * * *

The tendency of organized structures to decay, when under the influence of air, heat, and moisture, is the starting force; which, when a fluid plasma is present, the organism appropriates to its own actions. To explain this point, let us take carbon and oxygen, for instance. These elements unite and form carbonic acid, which is the result of the chemical action, and may be collected, weighed, and tested, and found to possess all the properties of matter. But carbonic acid is not the only result of this chemical action. The causes of the phenomena of heat and light, and no doubt of electricity too, are evolved, and we know not how many other forces which have not yet been recognized. The same may be said of the action in a galvanic battery, and of all other chemical actions. If the battery be charged with dilute sulphuric acid, the material result of the action would be the sulphate of the oxide of zinc, which possesses all the physical and chemical properties of this compound. But it must be observed that the causes of the phenomena of electricity, heat, and light are evolved in this chemical action; at least these phenomena become manifest under proper conditions, and result from the chemical action. Now, it may be said that chemical action results from chemical affinity, or a disposition between bodies to unite; so the tendency of oxygen to unite with carbon is not only the force by which carbonic acid is produced, but it is indirectly the cause of the evolution of heat, light, and electricity. When this is applied to the organism, we can understand how its tendency to resolve itself into simpler compounds by uniting with oxygen, may be the starting force from which all its other actions are secondary results; each action affording the necessary conditions for the actions which follow. We can understand how decay or oxydation may afford conditions, under the influence of which life and organization as necessarily and naturally result as do decomposition and decay in an organized structure, under the influence of conditions afforded by air, heat, and moisture. Ammonia, carbonic acid, etc., are the chemical results of decomposition; but, as in the inorganic world, so, here chemical action is attended with the evolution of electricity and the causes of

heat and light, and it may be with various other forces which have not yet been recognized. * * * * * * *

Heat and electricity are evolved by oxydation; oxygen and hydrogen do not unite of themselves; under the influence of ***heat*** they unite explosively, and the water thus formed is resolved into its constituents by ***electricity***. So, in an organism there is no tendency either to decay or organization, except it be under the influence of air, heat, and moisture: but under the influence of these circumstances the natural tendency is to decay: but decay or oxydation evolves heat and electricity, under the influence of which organization is the natural result, as the oxydation of one metal evolves a force which will ***deoxydize*** another. Heat, which produces oxydation, is evolved by the oxydation of something else: so electricity, which produces deoxydation, is evolved by oxydation, and there is no more difficulty in explaining why the conditions afforded by decay should produce organization, than why the conditions afforded by air, heat, and moisture should produce disorganization. * * * * *

Wherever there is life there is decay, and, in health, decay is always in proportion to the vital activity. This shows some necessary connection between the two, and a possibility that there may be some truth in the foregoing proposition. It may be said, if the proposition be true, there should be life wherever there is decay. But not so: if an acid be thrown upon zinc, oxydation takes place, but there are no electrical phenomena unless there be a peculiar arrangement with another metal: so it is only under a peculiar arrangement, as in an organized structure, that decomposition and decay give rise to vital phenomena.

Change is essential to the very idea of life. From the lowest plant, consisting of a single cell, to the highest animal, there is constant change and decay so long as there is life. In plants there is constant decay in the leaves, and it is well established that the growth of the more permanent woody structures is dependent upon the changes which take place in the leaves. The cells of the leaf, whose office it is to prepare the nutritious fluid, are but transitory: in all cases the vital activity corresponds with the activity of decay. As the solid woody structure is permanent, so it ***does not*** participate in the life of the plant, or generate life force. The woody tissue is the object obtained by means of life action in cells of brief duration, while it does not itself participate in these actions. In animals, force is required not only for the performance of the organic functions, as in plants, but also for the performance of the animal functions. Now there is no fact better established in physiology than, in the exercise of the animal functions, the ***destruction*** of the organ is directly in proportion to the activity of the functions. There can be no doubt but the final cause of the exercise of organic functions in animals is, so far as the ***individual*** is concerned, to supply and keep up the conditions for the exercise of the animal functions; yet it is no less true in animals than in plants, that the exercise of *organic functions* in them is also attended with decomposition and decay in proportion to their activity. In the young the tissues are soft, and decay is rapid, and the vital actions are correspondingly active: while in the old the tissues become more firm and permanent, and the vital actions are consequently less vigorous. In the former the repair of injuries is rapid, and if the cause of disease be removed, the restoration to health is quick and entire: but in the latter the structure is firm, decay is slow, the vital energies are correspondingly low, and, if there be a restoration, it is tedious, and often but partial. From the beginning of life to the end of it there is a constant relation between decay and life action. It has been considered that decomposition of the muscular and nervous tissues results from their functional activity: if the proposition here advocated be correct, their functional activity results from decomposition and decay, or from forces evolved in this process. A machine of art acts more easily and with less friction when composed of a hard material: while in the organism, as the tissues become more firm the actions are

less; hence this must be because there is less force to produce the actions; but there is a constant relation between the decay and the actions of an organism; hence it would follow that the destruction does not result from the action, but the action from the forces evolved in its oxydation. The relation preserved in health between decay and renewal is so constant that it can not be believed a mere accident. As decay and renewal are directly opposite to each other, they can not be dependent upon the same cause; hence, as the relation is so constantly preserved, the one must be dependent upon some condition afforded by the other. Now, as the natural tendency of the organism is to decay, and, as there could not be renewal previous to decay, it is most probable that decay affords the necessary conditions to renewal; that is, the very act which creates a necessity for renewal also evolves the forces necessary for its accomplishment.

The above proposition seems somewhat plausible when we consider that the same conditions which are necessary to decomposition and decay are conditions necessary to life. Under the very same circumstances we have life manifested in one organic compound, and nothing but destruction in another; while, without these circumstances, there is neither Life nor Destruction in either. Can this be because air, heat, and moisture are conscious existences, and have not the same tendency in the two cases? Can it be that they have in the one case a *deadly*, while in the other a *vitalizing*, influence? It would seem not; although vital actions do result from the influence of these conditions in the one case, yet it would appear that this can only be effected through decay; for their tendency to *destroy* and *disorganize* must be the only way through which they exert their influence throughout the organic world. Take a seed for instance; if it be preserved from the conditions of decay it will remain unchanged for any length of time; but so soon as the influence of these conditions operates, Life is manifested—an act of *organization*, which is directly contrary to the admitted natural influence of these conditions. It is not an object here to define the forces which produce vital action; admit, if you please, the existence of an independent "vital principle;" or, if you would rather, admit that "matter capable of assimilation was originally endowed with vital properties;" or let there be any hypothesis which may enter into the heart of man to conjecture, the argument is the same; that the forces which produce vital actions, be they what they may, are developed by means of the oxydation or decay of the organism, just as electricity, heat, and light are evolved by the oxydation of zinc. As the external conditions of Life are the same as those of Decay, the different results must proceed from difference in the substance acted upon; and as the tendency of these conditions is to produce disorganization rather than organization in *all* organic compounds, and as there is Decay wherever there is Life, Decay must be a necessary antecedent to Life. But an *organized structure* is so arranged by an Infinite Wisdom, that in it the very act of incipient destruction liberates a recuperative life force, which, if there be a supply of nutriment, *renews* and builds up the structure, every particle of which is, in its turn, destined to *decay*, and thus acts its part to keep up the actions of the individual.

Further evidence in favor of this proposition, derived from the fact that it obviates some objections which hold against other theories. While Dr. CARPENTER abandons the venerable phrase, "the vital principle," as a support to the mind in explaining the phenomena of life, he does not seem to have afforded the shadow of a substitute in his theory that matter was originally endowed with *vital properties* which are developed by the act of organization. But more, there are marked objections to this theory, which not only do not hold against, but strongly corroborate, the one here advocated. The first to be noticed is the constant tendency of organized structures to disorganization. Now, for the "act of organization" there must be a force exerted more than sufficient to counteract this tendency in the part that is in the act of organization. Can the "act

of organization" be at the same time the *effect* and the *cause* of this force? But it is said that decay takes place the same in the living as in the dead body, but in the former the effects are "counteracted" by constant renewal. This is begging the question, for, if decay were not in some measure obviated by a counter force, there could be no renewal. From the previous arguments it appears possible that this counter force may be evolved by decay itself; not decay in the part that is in the act of organization, which would be absurd; but in a single cell, for instance, the decay of the *exterior* liberates forces, which carry *the interior* to a higher state of organization, as in inorganic chemistry the *oxydation* of one metal liberates a force which produces the *deoxydation* of another. The fact that life force is evolved by decay accounts for the equilibrium between decay and renewed preservation in health. If any cause should tend to diminish decay, life force would diminish accordingly, and the structure would be less preserved against the *ordinary* influences, while if any cause increase decay, life force is increased, and the structure is more preserved in proportion to the greater cause of decay. We have here the law by which the system tends to preserve health; but more on this point hereafter. * * * * * * * *

The object of the foregoing arguments has been to present some things which are not entirely satisfactory in the various theories of Life, and in some measure to do away with the prejudice against a new theory. It has been also to show that the proposition stated in the beginning is not entirely absurd, but somewhat plausible, and worthy of study to confirm or to refute it. So far, we have but an hypothesis, with some circumstantial evidence in its favor: a few phenomena of an organism, or of a living being, will now be considered, which seem to prove *positively* the truth of the proposition *that life is produced by forces which are evolved by the decomposition or oxydation of the organism.* We will examine a few of the experiments which *Nature* is continually performing before our eyes, and see to what conclusion they would naturally conduct us. Reference has been and will be made to Dr. CARPENTER'S work, because it is the standard work of the day, as well as our text book.

Arguments from the phenomena of the organism in a *normal condition.*

First, of "*Dormant Vitality*," as it is called. This is a phrase manufactured to explain the condition of a seed previous to germination. No doubt it originated in the difficulty to account for the life which becomes manifest under proper conditions, if it did not exist in the seed before, though *asleep*, and only needing to be *waked up*. Whatever may be said of *phrase explanations* as a general thing, here, at least, it seems to involve greater difficulties than it obviates. To make it at all satisfactory it is necessary to explain how a thing can be neither dead nor alive, as is contended to be the condition of a seed before it germinates.* It would seem as reasonable to say that two and two may not make four, as to say that a thing which is not alive may at the same time *not* be dead. The germ is but *one condition* to Life, and therefore does not possess life of itself. We are told by all that air, heat, and moisture are "*stimuli*" to arouse this drowsy life from its sweet repose. To say the least, it is not more probable that air, heat, and moisture are not respecters of person, but act upon a germ in no other way than they do upon any other organic compound, and that life action is produced by the forces evolved in the oxydation or decay of the organism when thus under the influence of these conditions.

The very idea of Life involves that of *action.* In fact, it is to the *actions* of an organized structure that the term *Life* is applied; for without action there is no Life. Now, there can be no action without some agent to produce it; and this agent, or agents, must have existed, in part at least, in the seed, prior to germination, and they *may* be said to constitute the

*Carpenter's Human Physiology, § 255.

principle of Life, but not in the ordinary acceptation of the phrase. In the ***time piece*** gravitation is taken advantage of, and, in that instrument, becomes the motor force. If it would be a source of gratification to any individual, he ***might*** call it, as here applied, the ***principle of the clock***, if he did not convey by that phrase the idea that it was something ***distinct*** from gravitation as exhibited elsewhere. Words are but the expressions of ideas; I do not, therefore, contend against the phrase—"the vital principle"—but against the ideas which it is used to express. Although there ***must be*** agents to produce vital actions, yet I contend that, as in the clock the motor force is not distinct from gravitation elsewhere, so in the germ, advantage is taken of the ***ordinary*** forces and properties of matter, and that there is no agent at work in the organism distinct from the forces which belong to the matter which constitutes it. It is contended that there is no independent agent created with the germ in a ***sleepy condition***, only needing to be waked up into action by "***stimuli.***" which, when thus ***excited*** into action, overrules the ordinary tendencies and gives direction to chemical action; but that vital actions result ***from*** the ordinary forces as directed in the organism. It may be objected that the natural tendency is to disorganization, and this is true; but it is no objection to the general proposition; for the tendency to disorganization may be the starting force to the whole machinery. To show this possible, in addition to the argument already drawn from inorganic chemistry, let us consider an analogous action in physics: The force of gravitation gives all matter upon the surface of the earth a direction to the centre, so that the natural tendency is "downward;" but man can, by ***his*** ingenuity, so direct this force as to raise bodies ***upward***. Let there be two railways upon an inclined plane, for instance; a car descending from the top by force of gravitation, may be so attached to another at the bottom as to draw it up. The action of the ascending car is directly contrary to gravitation, yet gravitation is the acting force. We can see the tackle and the ropes attached, and prove mathematically how gravitation may be the acting force to ***elevate*** weights; and no one imagines the existence of an independent agent which he calls the ***inclined plane principle***, whose office it is to overrule gravitation and produce action contrary to it; for, although the action is contrary to the ordinary direction of gravitation, yet he sees the process, and knows that, so far from there being an independent agent overruling gravitation, it is gravitation itself that produces the action as directed by the ingenuity of man. So in the organism; so far from there being an independent agent to overrule the natural laws, properties, and forces of the matter composing the organism, it is these forces themselves that produce vital actions, when peculiar directions are given to them by the means taken by an infinitely wise and just God for the accomplishment of His own ends. It is true we can not see the whole process as in the example of the inclined plane above cited, yet it is unphilosophical to suppose an unknown agent, unless the known ones are proved insufficient, and it is shown that the natural tendency to disorganization does not prove such an agent necessary. * * * * * * * * *

Though neither oxygen nor hydrogen possesses the properties of water, in a separate condition, yet they possess properties which give them the ***susceptibility*** of forming this compound with its peculiar properties. So it is with the organism; though the various kinds of matter capable of assimilation do not possess vital properties, in a separate state, yet they were originally endowed with properties which give them the ***susceptibility*** of forming an organism with its peculiar properties. As the properties of water ***originate*** with the combination, so the properties of an organized structure ***originate*** with the combination. The organism can not, strictly speaking, be said to possess ***vital properties*** itself; for, life may be said to be the sum of the actions of an organized structure, but there is no action in this structure, unless it be under the influence of

certain external agents; therefore the susceptibility of action is the property, and not the action itself.

Not only have we the causes heretofore stated for rejecting the theory of an independent vital principle created with the organism, and the theory that matter was originally endowed with vital properties, which are "caused to manifest themselves" by the act of organization, but there seems to be still more direct and positive evidence against them. We read in our textbook that all vital phenomena are dependent upon at least two sets of conditions—"an organized structure possessed of peculiar properties, and certain stimuli by which these properties are called into action." From the context we learn that the word *properties* is used to express *dormant forces:* hence the above conditions would read thus——an organized structure possessed of peculiar *dormant forces*, and certain *stimuli* by which these *dormant forces* are called into action. In considering the conditions of Life, as above expressed, let us first see what idea we have of the meaning of the word *force*. What does it express, if it express anything at all? It is used to express that agent which produces, or tends to produce action; if it be not producing, or tending to produce action, it is not a force; if it be dormant, it is not thus producing, or tending to produce action; therefore, if it be dormant, it is not a force, and consequently, the phrases *dormant forces* and *dormant vitality* seem to be philosophically absurd. The two words contradict each other. It is just as impossible to annihilate force as it would be to destroy matter; but the very act of a force becoming dormant would be an act of its own annihilation, and therefore a force can not be dormant. As there is the same amount of matter now that there was at the creation, so there is the same amount of force; nothing has been added to or taken from it. If a force do not produce action, it is not therefore dormant, but is balanced by a counterforce. Gravitation is acting no less energetically upon all bodies upon the surface of the earth than if they were unsupported in the air, though in the latter case it would produce action, and in the former it does not; in every case it is tending to produce action. But again, we are told that certain *stimuli* excite these dormant forces into action. Stimulate a force! If it be a force at all, it is already in action, and can not be stimulated or depressed. It is true the action may be increased, but this can only be effected by adding other forces, or by changing the *direction* of the existing forces. As matter can not be increased or diminished, but can be so variously combined as to produce very different compounds, so force can not be increased or diminished, but may be variously combined and directed so as to produce very different resultants. If any number of forces were so directed that separately they would make a body describe all the sides of a polygon, when all these forces act in their respective directions at the same instant, they would not tend to *move* the body in any direction, for their energies would be exhausted in neutralizing each other. If the same forces were differently directed, they might cause violent action; but they would not be any more energetic themselves than when they did not produce any action. Take gunpowder, for instance; it may be preserved for any length of time without change; but, if a spark be applied, violent action ensues. The spark could not *stimulate* forces which were dormant in the powder, but simply gives a new direction to forces which previously were neutralizing each other, or rather disturbing the previous balance of forces.

When the above considerations are observed, it seems that the condition of a seed, before germination, loses its peculiar mystery, and its explanation becomes comparatively easy. The phrase—"dormant vitality"—is the received explanation at the present time; but I have attempted to show that there can be no such thing as dormant vitality, and, moreover, if there could, that the external agents could not *stimulate* it into action. It is contended that if there be forces in the seed, and there must be, these forces must be in action, though they may not pro-

duce action; and that the only way air, heat, and moisture, or any other agents, can produce action in the seed, is either by their additional force or by changing the direction of the existing forces, and thus disturbing the balance. The facts in the case are simply these: A seed may be preserved any length of time without undergoing the slightest change; but, when certain external agents are applied, life becomes manifest. The object is to interpret these phenomena, just as we would those which present themselves in any artificial experiment. This experiment, performed for us by nature, is brought forward in support of the proposition—*that life action is produced by forces which are evolved*, or take a new direction, *in the decomposition of the organism*. The seed does not possess vitality, in any sense of the word, before germination; it does not even possess *life force*, either dormant or in action, for life is only produced when it is under the influence of certain external agents, and, therefore, life force is the resultant of forces as directed by the seed under the influence of these external agents. Therefore, we have life force only under the co-operation of *all* the conditions of life; but its *components* have existed and been in operation since the foundation of the world or the creation of matter. Now these *components* are not mysterious agents which never manifest themselves except in organized structures, but the very same forces which produce the *ordinary* chemical actions, when directed by an organism under the influence of these external agents, become the components of life force. But organization *must be* produced by means of disorganization, because the natural tendency of an organized structure, under the influence of the external conditions of life, is to disorganization; and, consequently, organization can not be *directly* produced by the ordinary forces. But, as no means or ingenuity whatever could make gravitation *directly* elevate a weight, yet, as has been seen in the case of the inclined plane, it may be made to do so *indirectly*, by means of depressing a weight, which is its natural tendency; so no fortuitous circumstance or event could ever make the ordinary forces of matter *directly* produce organization, yet they may produce organization *indirectly* by means of disorganization, which is their natural tendency. From the foregoing considerations, therefore, it is concluded that life *originates* when the seed is placed under the proper conditions, through decay or oxydation, which these conditions naturally induce. * * *

Though, in the seed before germination, and in a frozen animal, there is not one of all those phenomena to the aggregate of which the term *Life* is applied; yet we must *believe* that there was vitality in them in their inactive condition, rather than give up some previously conceived theory! But we will compromise the matter somewhat, and call it "*Dormant Vitality*," regardless of the sacrifice of principles! The same objections which have been brought against Dormant Vitality in a seed, apply equally well here; for, the two conditions have been explained by a sort of circle; that the condition of a seed is precisely similar to that of a torpid animal, and the condition of a torpid animal is precisely similar to that of a seed. The fact that forces can not be dormant, and can not be stimulated, seems a sufficient objection to this explanation. Upon the supposition that *Life is produced by forces which are evolved in the act of decay*, the explanation becomes easy and natural. As the temperature, which is a condition to decay, diminishes, decay must also diminish; and as decay of an organism is the means by which life force is produced, the diminution of decay would diminish life force accordingly. If the temperature be so much diminished as to arrest decay, life must consequently cease; not in part, but entirely. This state of *death* may continue indefinitely, so long as the external conditions are preserved. But with the return of heat, if the structure have not been destroyed, decay, and consequently life, commence again as in the original germ; and, whereas, the animal was *dead*, it is alive again.

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The *nascent* state is thought favorable to chemical combination, because the elements have not then received the gaseous form. But matter in combination possesses a different amount of electricity and heat, from what it does in an elementary state; so, when a constituent of a compound is about being liberated, it may be seized by an *enemy* while it is thus "shorn of its strength."

The most of the remaining portions of the essay is devoted to the establishment of the truth of these positions by reference to various phenomena, as "Hybernation and Analogous Condition," "Equivocal Generation," the "Phenomena of Disease,"—"Depression," "Increased Action," "Inflammation."—"Respective Functions of the Muscular and Nervous Tissues," and also "Fermentation." But, as the object of this paper is merely to indicate clearly the *positions*, and not to attempt to prove them true, this need not be repeated here. However, much not reproduced here may be found in the *American Journal of the Medical Sciences* for July, 1852, and that part which refers tothe phenomena of inflammation may be found, "in its general outlines, and even in some of its details" in the *Brit. and For. Med.-Chir. Review* for July, 1858, as an "Original Communication," by JAMES HINTON, M.R.C.S.*

* NOTE.—This communication on Inflammation, by Dr. HINTON, being the first full adoption of my views that I had seen, I at once published an article in the St. Louis Medical and Surgical Journal on "Inflammation," in which I reproduced the application of my views of life to the phenomena of that disease, published in 1851, as also, much of Dr. HINTON's paper. I did this with the expressed purpose of presenting Dr. HINTON's communication as a verification of my general views of life. I had sent my thesis to the Medico-Chirurgical Review, and it received no notice; notwithstanding, that small portion of it which referred to the phenomena of inflammation, came out ("in its general outlines, and even in some of its details") in that same journal seven years after, as an "original communication." In noticing this paper of mine on "Inflammation," the American Journal of Medical Sciences, for Jan., 1859, says: "In his first essay, Dr. WATTERS endeavored to deduce confirmatory evidence of the truth of his theory of life by applying it to the elucidation of the phenomena of inflammation; the explanation of the pathology of inflammation there laid down is, is its general outlines, and even in some of its details, proposed by Dr. HINTON, in an article published by him in the number of the British and Foreign Medico-Chirurgical Review for July, 1858, as one which is both clear and satisfactory, and by which the facts connected with the phenomena and course of inflammation are better co-ordinated than has been done by any other theory of the disease. The views advanced in the article of Dr. HINTON, to which we refer, he assumes as original with himself; not the slightest reference being made to the previous publication of Dr. WATTERS. We would not be understood as accusing Dr. HINTON of plagiarism. Notwithstanding the very remarkable similarity between the theory of inflammation as set forth by him in the paper referred to and that publicly announced by Dr. WATTERS seven years previously, it is very possible that it was developed in the mind of Dr. HINTON without any knowledge of the essay of the former gentleman, and by a course of reasoning commencing from a very different and dissimilar starting point. And this fact of the almost entire identity of the general idea of life, or vital action, upon which is based the pathology of inflammation advanced by both these gentlemen, and arrived at by each entirely independent of any knowledge of the others labors, may be assumed, we think, as a pretty certain evidence of the value of that idea, and of its foundation in truth. But, whatever may be the estimate we may be inclined to place upon the doctrine of vitality here referred to, the claim to priority in its annunciation and elucidation must be decided in favor of Dr. WATTERS." I sent this paper, thus referred to by the American Journal of Medical Sciences, to the British and Foreign Medico-Chirurgical Review; it there received no notice. I also sent it, together with my thesis, to Dr. HINTON. Notwithstanding all this, a book appears in 1861 entitled, "Life in Nature, by

We will now make two quotations from papers subsequently published in the *St. Louis Medical and Surgical Journal*, where probably the positions are more clearly stated:

[B. From the No. for May, 1855.]

The proposition was stated in the last article, that oxydation is the first action when an organism is placed under the influence of the external conditions of life, and that the special vital actions are reciprocal with oxydation. It has been maintained, that actions can be modified with uniformity and law under two conditions only; viz., either as directed by a voluntary intelligent power directly, or as directed by mechanism. That mechanism, and not an intelligent voluntary power, is the special condition of the vital actions, I consider sufficiently established. As there is no efficient power in mechanism, its actions must be reciprocal with or somewhat anterior. According to our view, therefore, the cause of action and the cause of the special modification of action, are no more one and the same than in any machine of art. If mechanism, or the special arrangement of the physical agents in an organism, is the cause of the *speciality* of the vital actions, then it is this that accomplishes what has been supposed to be the office of a "vital principle," "vital force," or of some imaginary something. We have seen that those who assume a special vital force (either as a metamorphosed form of the physical forces, or as an inherent property of matter to be developed by organization) to explain the special vital actions, are especially unphilosophic, because they assume their "vital force" to explain what can only be explained by the direct agency of an intelligent efficient power, or by mechanism. Unless, therefore, they endow their "vital force" with intelligence and voluntary power (which they do not do), the speciality of the vital actions must still depend upon mechanism. But it was to explain this speciality of action they assume the peculiar force.

The inventive genius of man has contrived numberless mechanisms or arrangements of physical agents, which, by their regular, fixed, and necessitated action, are continually accomplishing his objects without his direct agency. If we examine this machinery, we find that with a few physical forces as motors, an endless variety of action is obtained. The action is reciprocal with an antecedent or motor; the *variety* of action is due to the machinery. We call that the physical force or motor which is immediately antecedent to the actions of the special machine, and upon which these actions depend. And let it be observed that, so far as the philosophy of the actions of any piece of machinery is concerned, we need not speculate about the antecedent of this motor upon which it depends, and with which its actions are reciprocal. Now, a machine of art will perform its specific actions whether the motor be steam, or a water fall, or any thing else; hence, in studying the specific actions, attention should be directed to the arrangement which modifies the action and not to specific forces. If the cause of the specific actions in a living organism be the special arrangement of physical agents, it is apparent that attention should be directed to this, and not to specific forces.

JAMES HINTON, author of Man and his Dwelling Place, etc. London: Smith, Elder & Co., 65 Cornhill. 12mo., pp. 268,—(the right of translation is reserved,)" in which, not only the theory of inflammation, but the whole theory of life contained in my thesis, is presented "in its general outlines, and even in some of its details;" still, "not the slightest reference being made to the previous publications of Dr. WATTERS." I make these statements under the supposition that this is the same gentleman who wrote the article on "Inflammation" in the British and Foreign Medico-Chirurgical Review for July, 1858, and to whom I sent my papers. If these views referred to should turn out of value sufficient to excite attention, as Dr. HINTON certainly believes, the scientific world, to whom I am now appealing, will doubtless expect to hear from that gentleman.

And as steam may be the motor of any variety of machinery, so oxydation *may* be the antecedent to the vital actions with which these actions are reciprocal, though directly opposite in direction. Oxydation is antecedent to steam power, yet the *direction* of action in oxydation does not in the least resemble the direction of action in a steam engine; and if the speciality of the vital actions depends upon mechanism, it would not be expected that the direction of the antecedent or "motor" would correspond to the direction of the vital actions. The proposition that the vital actions are reciprocal with oxydation is thus shown not to be absurd, at least, by reference to machines of art, and this reference is just if the speciality of the vital actions depend upon mechanism. The *direction* of the motor of the machinery in a large factory does not correspond to the direction of action in the various pieces of machinery—the actions of the machinery are reciprocal with the motor, but the *direction* of these actions depends upon the mechanism. So in the living organism, we are not to assume special motors, or "vital forces," the direction of whose action shall correspond to the vital actions, as the *direction* of the vital actions depends upon mechanism, or the physical conditions under which they take place.

[C. From the No. for July, 1855.]

What is the *modus operandi* of heat, oxygen, and moisture, in giving origin to vital phenomena in a seed? This is the plain question. If the propositions advocated in the previous article be true, we will have but little difficulty in answering this question. If the organization is all that is peculiar to the seed, these conditions can not *excite* the "vital principle" into action." Neither can these conditions excite any power, as no physical force can be stimulated. And it has been shown, I think, that the heat can not be metamorphosed into a "peculiar vital force," as maintained by Dr. CARPENTER. Now, you say, if there be no peculiar power in the seed, excited into action by these conditions, and if the heat can not be transformed into such a peculiar power, and if the seed be really nothing more than a special arrangement of physical agents, why do not the heat, oxygen, and moisture occasion the oxydation of this compound, and reduce it to inorganic matter as in other organic compounds? The simple answer to this question is, they *do* occasion the oxydation of the germ and reduce it to inorganic matter, just as they affect any other organic compound. But you may smile and say this is absurd, for do we not see that they produce actions directly opposite—life, nutrition, and growth? Life, nutrition, and growth are not the primary actions produced by these conditions, but secondary and reciprocal with a primary action which results as a natural and necessary consequence of the influence of the external conditions of life upon organic matter. True, there is a vast difference between the actions of an organism and those of unorganized organic matter when under the influence of the external conditions of life, but this difference is not in the primary action but in those secondary and consequent actions, which are peculiar to organized matter. There is a vast difference between the actions of a steam engine and the elevation of the lid of a common tea kettle, but this difference is not in the primary action of steam, but in the secondary and consequent actions, the peculiarity of which is due to speciality of machinery. Now we have maintained by a process of reasoning entirely independent of the present proposition, that there is nothing whatever in the living organism to which the vital phenomena can be ascribed except the special arrangement of the physical agents in that organism. It has also been maintained that absolute or efficient power does not exist as a property, quality, or attribute of any physical agent whatever. If this be true, and it must be true, we must refer physical action to an equivalent antecedent as the direct cause, and the direction of action to mechanism, and not to assumed efficient forces, such as affinity, attraction, vital force,

etc. Oxydation is the "natural tendency" in all organic matter when under the influence of the external conditions of life; the organism is a special arrangement of physical agents by which action, thus originating in the machinery, is so directed as to constitute vital phenomena. Action may *seem* to begin here and end there, but this is all an illusion; and under this illusion, we have assumed certain absolute, efficient physical forces as the direct cause, which we fancy give origin to these actions immediately by an internal effort or energy. But action, or a disequilibrium of the physical agents, exists as a fact, and, if these physical agents be inert, must continue in its endless chain of reactions through the vast machinery of the universe, till it shall reverberate back to the Absolute and Eternal, in whom is all power and might. The universal machinery of nature is in action; change and modification in direction is the law, but this change and this modification is due to the machinery. There is no reversal of the laws of matter in a living organism. But if the speciality of the vital actions be due to the physical arrangement in the organism, these actions must be reciprocal with somewhat anterior. If I can show reasons to believe that the vital actions are reciprocal with oxydation through the organic machinery, I obviate the necessity of assuming a peculiar force, to reverse the natural laws of matter and to counteract the "destructive tendency to decay." I start with oxydation as one link in the chain of sequences in the machinery of the universe, and not as an ultimate power; as the *first* action in the organism, but not as the direct result of an effort of absolute force; as the *antecedent* to those actions which are peculiar to the organic machinery, and not as the *destructive* tendency of matter resulting from *inherent* affinities.

SECOND POINT OF THE GENERAL ARGUMENT:—FROM DR. CARPENTER'S RECORD OF 1850, AND SUBSEQUENT PUBLICATIONS, UNTIL HIS "RECENT WORKS" IN 1864.

In 1852 I procured the *Brit. and For. Med.-Chir. Review* for 1851, in which I found a review entitled, "GROVE, CARPENTER, etc., on the Correlation of Forces, Physical and Vital." From this I learned for the first time that Dr. CARPENTER had probably already abandoned his theory of Life,—"*that vital forces must exist in a dormant condition in all matter capable of becoming organized*,"—at the very time I was taking exceptions to it in my thesis. Being anxious to learn *definitely* his present "refuge," I soon procured access to Prof. GROVE'S work and to Dr. CARPENTER'S "Memoir." As my space is limited, I shall only quote a single passage from his memoir in the *Phil. Trans.*, 1850, to illustrate each point of his doctrine of the "correlation theory" which pertains to this discussion. Most of the quotations will be from his Human Physiology, edition of 1852, where his doctrine is more definitely and concisely stated. The statements in the memoir are frequently of such vagueness as to require the study of the whole paper to gather anything like a definite conception of his real meaning.

1st. He adopts the theory of the Correlation of the Physical Forces, and extends this to the "Vital Forces:" insisting upon the necessity of a "material substratum" as the medium of this change of forces.

[From Phil. Trans., 1850.]

And thus, according to the view here advocated, the vital force which *causes the primordial cell of the germ first to multiply itself, and then to*

develop itself into a complex and extensive organism,* was not either originally locked up in that single cell, nor was it latent in the materials which are progressively assimilated by itself and its descendants; but is *directly* and *immediately* supplied by the heat which is constantly operating upon it, and which is *transformed* into vital force by its passage through the organized fabric that manifests it. * * * *

Starting with the abstract notion of Force, as emanating at once from the Divine will, we might say that this force, operating through inorganic matter, manifests itself in electricity, magnetism, light, heat, chemical affinity, and mechanical motion; but that, when directed through organized structures, it effects the operations of growth, development, chemico-vital transformations, and the like; and is further *metamorphosed* through the instrumentality of the structures thus generated, into nervous agency and muscular power." (Page 752.) [The italics are mine.]

And looking therefore at what we are accustomed to call the physical forces as so many *modi operandi* of one and the same agency, the creation and sustaining will of the Deity,—he (the author) does not feel the validity of the objections which have been raised by some to whose opinions on philosophic questions he attaches great weight, against the idea of the absolute *metamorphosis* or *conversion* of forces. (Page 730.)

One more preliminary remark is necessary, on a point which Prof. GROVE has not thought it requisite to dwell; namely, the necessity for a certain *material substratum* as the medium of the change in question. (Page 731.)

[From Human Physiology, edition of 1852.]

And we shall hereafter see reason to believe, that just as the unorganized *pabulum* provided for the nutrition of the structure, is converted by the act of Organization into the living cell, so the Physical and Chemical forces whose influence promotes that organization are really metamorphosed (so to speak) into Vital power by the instrumentality of the cell-germ, so that all the forms of "cell-force" are thus immediately derived from them. (Page 137.)

It seems, then, to be a legitimate expression of the dynamical conditions requisite for the production of the phenomena which we distinguished as *Vital*, to say that they are dependent, directly or indirectly, upon the *Physical* forces pervading the Universe; which, acting through organized structure as their "material substratum," manifest themselves as Vital Force, one of the most characteristic operations of this being the production of new tissue, which in its turn may become the instrument of a similar metamorphosis. And we have the same kind of evidence that Light and Heat, acting upon the organic germ, become transformed into Vital force, which we possess of the conversion of Heat into Electricity by acting on a certain combination of Metals, or of Electricity into Magnetism by being passed round a bar of iron, or of Heat or Electricity into Motion when their self-repulsive action separates the particles of matter from each other. For we shall presently find, that just as Heat, Light, Chemical Affinity, etc., are transformable into Vital force, so is Vital force capable of manifesting itself in the production of Light, Heat, Electricity, Chemical Affinity, or Mechanical Motion; thus completing the proof of that *mutual* relationship, or "correlation," which has been shown to exist among the Physical and Chemical forces themselves. (Pages 143-4.)

2d. He makes the *Vital Forces*, thus metamorphosed from Heat and Light, or from the "*abstract notion of Force as emanating at once from the Divine will*," special and peculiar, to account for the specialty and peculiarity of the vital motion.

* See next position, 2d.

[From Phil. Trans., 1850.]

Having thus contrasted the doctrine for which he is contending, with those which are current among physiologists, the author thinks it well to point out that he no more regards heat as the "vital principle," or as itself identical with the "vital force," than it is identical with electricity or with chemical affinity. Nor does he in the least recognize the possibility, that any action of heat upon inorganic elements can, of itself, develop an organized structure of even the simplest kind. The pre-existence of a living organism, through which *alone* can heat be *converted* [italics mine] into vital force, is as necessary upon this theory, as it is upon any of those currently received among physiologists. (Page 752.)

[From Human Physiology, 1852.]

We have no right to call in the assistance of vital force on any other occasion than when we witness phenomena which are not only inexplicable by, but altogether inconsistent with, the known operations of Physical and Chemical forces. Phenomena of this kind will hereafter come under our consideration. (Page 117.) * * *

But with the changes directly concerned in the *development of living tissue*, Chemistry would seem to have nothing whatever to do. * * * Now it is one of the chief peculiarities of this Vital force, that it is able, so long as it is capable of being fully exerted, to resist and keep at bay the influence of those Chemical and Physical forces, which would tend, were it not for this property of the living substance, to effect its speedy disintegration and decay. Of this we have a most characteristic and apposite example, in the case of a seed that has been brought to the surface of the soil, after having been buried for a long lapse of years or centuries in the earth. Whilst it remained in complete seclusion from moisture and oxygen, and was kept at a low temperature, no appreciable alteration took place in it; but so soon as it is exposed to warmth, and to the contact of air and water, it *must* begin to change—its passive existence giving place to a state either of growth or of decay, according as it has retained, or has lost, its vital properties. For the very agents which are most effectual in stimulating it to vital activity, and which afford the conditions, dynamical and material, whereby the seed develops itself into the plant, are those which, if the seed be no longer capable of germination, most favor its decay, reducing its organic components back to the condition of inorganic compounds. This peculiar attribute of living substances will be more fully considered in the next chapter. (Page 118.)

* * * * * * * * * *

Thus, then, according to the view here advocated, the Life of each part is dependent upon Chemical operations, in so far as it is by these that its nutrient materials are prepared, and the products of its decomposition are carried away; but the application which it makes of such materials to the production of new organized tissue, and the various actions which that tissue then exerts in virtue of its organization, are not only incapable of being explained on Chemical principles, but often take place in direct antagonism to Chemical forces. (Page 118.)

It has seemed advisable to attempt thus to mark out the operation of Chemical Forces in the living body, since the prevalent notions on this subject appear to the author either erroneous or vague. The accumulating evidence of the purely chemical nature of many of these changes of composition, which were formerly set down as the results of "vital affinity," has led many Chemists to the idea that the whole series of Vital operations is to be explained upon Chemical principles; and the notion of Vital force has been set aside as a physiological fiction, for which there is no longer any pretence. Feeling satisfied, however, that Vital force has as certain an existence, and as definite a sphere of operation, as Chemical Affinity, the author will make it his endeavor, in this Treatise, so to analyze the phenomena of the living body, as to trace the respective limits of the operation of each of these powers. (Note to page 118.)

But Dr. CARPENTER fails to tell us what determines these peculiar Vital forces, so wonderfully metamorphosed from heat, light, etc., by the

organism as a "*material substratum*," to produce the special vital actions. Have they infinite intelligence and volition? What induces them to form the eye? Where is their *pou sto?* and if some *pou sto* be necessary for the generation of every *tertium quid*, what is *its* relation to the generating force?

3d. He makes vital activity precede "decomposing change."

[From Phil. Trans., 1850.]

And it will be observed, too, that the combined influence of warmth, air, and moisture, which favors the rapid decay of dead tissue, is that which most promotes the growth of the living plant. Further, the more rapid and energetic are the processes of growth, the sooner (generally speaking) are they succeeded by decomposing changes. * * * * * These facts, and many others which might be cited, indicate that every integral part of the living fabric possesses within itself a capacity of being so acted on by external agencies, that the very forces which would tend to decompose and destroy it if it were dead, only excite it to vital activity if it be alive. (Page 734.)

[From Human Physiology of 1852.]

The changes involved in the process of organization have the effect of rendering the organic structure less and less instrumental in determining this metamorphosis of force; and thus a time arrives, when the capacity of development is exhausted, and when the physical and chemical forces, no longer turned to the account of vital activity, begin to exert a disintegrating power. Hence in the Life of each cell, there is a period in which its peculiar attributes are undergoing augmentation, an epoch of perfection, a period of decline, and an epoch of entire cessation, and the latter is forthwith succeeded (save in the exceptional cases already referred to, § 114) by the decay of the structure. And in proportion to the degree of vital energy which the cell possesses (that is, to its power of turning Chemical and Physical agencies to its own account, instead of being itself perverted by them), will it be able to resist the operation of influences which tend to its disintegration. (Page 137.)

4th. After assuming that Force can not be *dormant* or *latent*, he stores up force, as heat and light, in organic compounds, — it may be for thousands of thousands of years even.

[From Phil. Trans., 1850.]

And though the process of decay may be prevented or modified, so that the whole or a part of the materials of vegetable structures are disposed of in other ways, yet whenever they return to the condition from which they were at first withdrawn, they not only give back to the inorganic world the materials out of which they were formed, but the light and heat to which their production was due. Thus, in making use of the stores of coal which have been prepared for his wants by the luxuriant Flora of past ages, man is not only restoring to the atmosphere the carbonic acid, the water, and the ammonia which it must have contained in the carboniferous period, but is artificially reproducing the Light and Heat which were then expended in the operation of vegetable growth.

[From Human Phys., 1852.]

It is only, however, when the complete conversion of the organic compounds it has formed, into the binary compounds which furnished their materials, has taken place, that the Plant can be considered as having wholly given back the forces which it consumed in their first production; and this period may be also indefinitely postponed by the preservation of these substances; so that in fact it is only now, that Man, whilst consum-

ing the stores of Coal which have been prepared for his use by the luxuriant Flora of past ages, is reproducing and applying to his own purposes the Light and Heat which sustained the vegetable life of the Carboniferous period, whilst returning to the atmosphere the water, carbonic acid, and ammonia, which were then withdrawn from it. (Page 144–5.)

But Dr. CARPENTER fails to tell us what is the mode of that force thus stored up; and as he maintains that the forces are absolutely unital, he leaves us in the dark as to wherein this differs from the old doctrine of dormant or latent forces, which he has abandoned. From his "recent works" I thought he had found the key which unlocks the difficulty, but what it seems to open to *him* is only a "change of form" of his correlation theory of 1850!

THIRD POINT OF THE GENERAL ARGUMENT:—FROM DR. CARPENTER'S RECENT WORKS.

First. From the first chapter of his Human Physiology, English edition of 1864 (not published in this country). *Second.* From two essays published in the *New Quarterly Journal of Science* for 1864. These essays are republished in this country in connection with a collection of papers on "The Correlation and Conservation of Forces;" gotten up by EDWARD L. YOUMANS, of New York. The quotations will refer to the American republication, as it is accessible to most of the readers of this journal. The quotations will be mainly from these essays, as they differ in no essential point from the doctrines in his Human Physiology, and these essays were evidently written last, and are more definite. First.

[From Human Physiology.]

When we carefully look into the question, we find that what the *germ* really supplies is not the *force*, but the *directive agency*. (p. 5.)

The agency of heat as the "efficient cause," or a "*motive power*," to which the phenomena of growth and development are to be referred, is peculiarly well seen in the progress of germination. (p. 6.)

And it would not seem unlikely that the force supplied by this retrograde metamorphosis of the superfluous components of their food, which fall down (so to speak) from the elevated plane of proximate principles to the lower level of comparatively simple binary compounds, *constitutes the power by which another portion is raised to the rank of living tissue*. (p. 8.)—[italics mine.]

The agency of heat as the *moving power* of the constructive operations is even more distinctly shown in the development of the larva within the egg. (p. 10.)

Thus there are repetitions of the same thing from the beginning to the end of the chapter. Second,

(From the first Essay, of 1864.)

And, as the progress of science since the publication of my former memoir would lead me to present some parts of my scheme of doctrine in a different form, I venture to bring it again before the public in the form of a sketch (I claim for it no other title) of the aspect in which the application of the principle of the "Conservation of Force" to Physiology now presents itself to my mind.

Note must be made of the fact that at the word "*form*," in the above quotation, Dr. CARPENTER refers to a foot note, in which he says:

I have especially profited by a Memoir on the Correlation of Physical, Chemical, and Vital Force, and the Conservation of Force in Vital Phenomena, by Prof. LE CONTE (of South Carolina College), in *Silliman's American Journal* for Nov., 1859, reprinted in the *Philosophical Magazine* for 1860.

But as Prof. LE CONTE'S memoir was published more than eight years after my thesis, that does not affect the question at issue, which certainly is not whether Dr. CARPENTER is, or is not, "wanting in readiness to acknowledge real obligations of this kind." I will make one quotation here, for Dr. CARPENTER'S especial benefit, from Dr. LE CONTE'S memoir, by which he (Dr. C.) has "especially profited"; and by the side of it I will place a quotation from my thesis:

SEE SILLIMAN'S JOURNAL FOR NOV., 1859, PAGE 315.

But, according to the view which I now propose, decomposition is necessary to develop the force by which organization of food or nutrition is effected, and by which the various purely animal functions of the body are carried on:—*that decomposition not only creates the necessity, but at the same time furnishes the force of recomposition.*

SEE MY ESSAY OF 1851, PAGE 8, (QUOTED ELSEWHERE IN ITS CONNECTION IN THIS PAPER).

Now, as the natural tendency of the organism is to decay, and as there could not be renewal previously to decay, it is most probable that decay affords the necessary conditions to renewal:—*that is, the very act which creates the necessity for renewal also evolves the forces necessary for its accomplishment.*

When we look carefully into the question, however, we find that what the *germ* really supplies is not the force, but the *directive agency*. (p. 412.)

But, looking to the fact that these compounds are not produced in any case by the direct union of their elements, and that a decomposition of binary compounds seems to be a necessary antecedent of their formation, it is scarcely improbable that, as suggested by Dr. LE CONTE (*op. cit.*), that source is to be found in the chemical forces set free in the preliminary act of decomposition, in which the elements would be liberated in that "nascent condition" which is well known to be one of peculiar energy. (p. 415.) [*See last extract from my thesis in this communication.*]

Such a decomposition of a portion of the absorbed material is the only conceivable source of the large quantity of carbonic acid they are constantly giving out; and it would not seem unlikely that the force supplied by this retrograde metamorphosis of the superfluous components of their food, which fall down (so to speak) from the elevated plane of "proximate principles" to the lower level of comparatively simple binary compounds, supplies a force which raises another portion to the rank of living tissue, thus accounting in some degree for the very rapid growth for which this tribe of Plants is so remarkable. (p. 416.)

Whilst the portion of these actually converted into organized tissue may be considered as the expression of a further measure of force, which, acting under the *directive agency of the germ*, has served to build up the fabric in its characteristic type. (p. 417.)

And, according to the principles already stated, the descent of a portion of the materials of the latter to the condition of binary compounds, which is manifested in the largely increased exhalation of carbonic acid that takes place from the leaves in the latter part of the season, comes to the aid of external Heat, in supplying the force by which another portion of those materials is raised to the condition of organized tissue.

[From Second Essay.]

While the mode in which that power is exerted (*generally* as vital force, *specially* as the determining cause of the form peculiar to each type) depends upon the "germinal capacity" or directive agency inherent in each particular germ. (p. 420.)

The first of these manifestations is, as in the plant, the building up of the organism by the appropriation of material supplied from external sources under the directive agency of the germ. (p. 421.)

There is evidence in that liberation of carbonic acid which has been ascertained to go on in the egg (as in the germinating seed) during the whole of the developmental process, that the return of a portion of the organic substances provided for the sustenance of the embryo to the condition of simple binary compounds is an essential condition of the process; and, since it can scarcely be supposed that the object of this metamorphosis can be to furnish *heat* (an ample supply of that force being afforded by the body of the parent), it seems not unlikely that its purpose is to supply a force that concurs with the heat received from without in maintaining the process of organization. (pp. 426–7.)

Indeed, it is impossible to study the growth of any of the higher organisms—which not merely consists in the formation of new parts, but also involves a vast amount of interstitial change—without perceiving that, in the remodeling which is incessantly going on, the parts first formed must be removed to make way for those which are to take their place. And such removal can scarcely be accomplished without a retrograde metamorphosis, which, as in the numerous cases already referred to, may be considered with great probability as setting free constructive force to be applied in the production of new tissue. (p. 428.)

And it can hardly be questioned (if our general doctrines be well founded) that the constructive force that operates in the completion of the fabric will be derived in part from the heat so largely generated by chemical change, and in part from the descent which a portion of the fabric itself is continually making from the higher plane of organized tissue to the lower plane of dead matter. This high measure of vital activity can only be sustained by an ample supply of food; which thus supplies both *material* for the construction of the organism, and the *force* by whose agency that construction is accomplished. (p. 429.)

After the maturity of the organism has been attained, there is no longer any call for a larger measure of constructive force than is required for the *maintenance* of its integrity; but there seems evidence that even then the required force has to be supplied by a retrograde metamorphosis of a portion of the constituents of the food, over and above that which serves to generate animal heat. For it has been experimentally found that, in the ordinary life of an adult mammal, the quantity of food necessary to keep the body in its normal condition is nearly twice that which would be required to supply the "waste" of the organism, as measured by the total amount of *excreta* when food is withheld; and hence it seems almost certain that the descent of a portion of the organic constituents of this food to the lower level of simple binary compounds is a necessary condition of the elevation of another portion to the state of living organized tissue. (p. 429.)

And the concurrence of these independent indications seems to justify the inference that *motor force* may be developed, like heat, by the metamorphosis of the constituents of food which are not converted into living tissue. (p. 432.)

To sum up: The life of man, or of any of the higher animals, essentially consists in the manifestation of forces of various kinds, of which the organism is the instrument; and these forces are developed by the retrograde metamorphosis of the organic compounds generated by the

instrumentality of the plant, whereby they ultimately return to the simple binary forms (water, carbonic acid, and ammonia), which serve as the essential food of vegetables. Of these organic compounds, one portion (*a*) is converted into the substance of the living body by a constructive force, which (in so far as it is not supplied by the direct agency of external heat) is developed by the retrograde metamorphosis of another portion (*b*) of the food. And whilst the ultimate descent of the first named portion (*a*) to the simple condition from which it was originally drawn becomes one source of the peculiarly animal powers—the ***physical*** and the ***motor***—exerted by the organism, another source of these may be found in a like metamorphosis of a further portion (*c*) of the food which has never been converted into living tissue.

Thus, during the whole life of the animal, the organism is restoring to the world around both the ***materials*** and the ***forces*** which it draws from it; and after its death this restoration is completed, as in plants, by the final decomposition of its substance. But there is this marked contrast between the two kingdoms of organic nature in their material and dynamical relations to the inorganic world—that, whilst the vegetable is constantly engaged (so to speak) in raising its component materials from a lower plane to the higher, by means of the power which it draws from the solar rays, the animal, whilst raising one portion of these to a still higher level, by the descent of another portion to a lower ultimately lets down the whole of what the plant had raised; in so doing, however, giving back to the universe, in the form of heat and motion, the equivalent of the light and heat which the plant had taken from it. (p. 433.)

FOURTH POINT OF THE GENERAL ARGUMENT.

Suppose Dr. CARPENTER in 1850 had proposed this philosophy of the steam engine: that the engine, as a material substratum, converted or metamorphosed heat into a peculiar steam engine force, which he "felt satisfied had as certain an existence as chemical affinity," and then referred the peculiarity of the various actions of the engine to this metamorphosed form of heat; and then suppose in 1864 he should publish that the engine itself determined the specialty of its motions, or furnished the "directive agency," while the destructive metamorphosis of the coal only furnished the "motor"; and then should contend that this last was only a "modification," or "change of form," of his position "elaborately discussed" in 1850;—who that reflects would not laugh? The phrase "material substratum" does not *once* appear in these "recent works" referred to, though he placed so much importance upon it in his theory of 1850, and subsequently. In these "recent works" there is not to be found *one* intimation of the "change," or "metamorphosis," or "conversion," of heat and light into a peculiar vital force, which was the burden of his memoir of 1850. In his recent works of 1864 he does not leave destructive metamorphosis to *succeed* vital activity, *because* the organism is no longer able to convert the destructive agencies into vital force, and thus being left to their mercy, they cause destructive change. No; in 1864 he turns over to the germ or organism that function which his vital forces, metamorphosed from heat and light, had to perform in 1850,—***he gives the directive agency to the germ or organism.*** Is not that emphatically my theory of 1851? Compare the records! In 1864 he makes destructive metamorphosis the antecedent "motor" to the vital motions. Is not that

my view as presented in 1851? Compare the records! Is the doctrine that the germ or organism gives *directive agency* to the vital actions a "modification" or "change of form" of the doctrine that the germ or organism is a "material substratum" to convert heat and light into vital forces? Is the doctrine that destructive metamorphosis gives the "motor" to the vital motions a "modification" or "change of form" of the doctrine that destructive metamorphosis succeeds vital activity when the organism can no longer metamorphose these destructive agencies into vital forces? I hope Dr. CARPENTER will not suppose that I am calling in question his "truth and honesty" when I deny, as a matter of fact, that the views in his "recent works," to which reference has been made, are a "modification" or "change of form" of his previous doctrines. There is more than sufficient internal evidence in the essays themselves to show that Dr. CARPENTER was perfectly sincere in his statement; for, after giving to the germ the *directive agency*, he persists in making heat the "*constructive* force," while the arguments he presents to prove this of heat might be applied with equal propriety to prove the same of the organism, or moisture, or atmospheric air; either taken separately or abstractly, as he takes heat.

Now, I think it has been shown that while Dr. CARPENTER'S recent views are an abandonment of his former doctrines, they are in "many respects identical" with mine of 1851.

In one point, however, Dr. CARPENTER in his memoir of 1850 and I in my thesis of 1851 agreed. That is, that Force could not be *dormant* or *inactive;* in other words, that Force must be persistent. But this predicate of force is of the reason and not of the sensational understanding; it is not given by the senses, but rather is apparently contradicted by the senses. And this universal predicate of physical force depends upon our idea of the *inertia* of force; that is, its incapacity to change itself; for if force could change itself, the reason could not affirm that it might not be dormant or inactive. Then force must be in inertia, and inertia in force; neither the one nor the other can be phenomenal without both. But after making the affirmation of the persistence of force in his memoir, Dr. CARPENTER at once drops back into the region of the reflective understanding, and in making force "a mode of motion," or "an affection of matter," or "an abstract notion of force as emanating at once from the Divine will," he is unable to take a single step without contradicting his first position,—that force can not be dormant. As force itself is *in* contradiction, the theory that does not recognize this will be *forced* into self-contradiction. Hence, Dr. CARPENTER at once finds it necessary to store his "mode of motion," or whatever else he may call it, in the coal beds for thousands of thousands of years, it may be, again to come into activity as we burn it under our engines! Hence, Dr. CARPENTER fails to sustain our common starting point in his memoir—the persistence of force—and at once runs that doctrine into self-contradictions. Hence he is in no sense justified in referring the doctrines of his "recent works," in so far as they are an adoption of mine, back to his memoir of 1850. That the doctrines in his "recent works," so far as they are identical with mine, *are* self-consistent in sustaining the "conservation of force," I think was shown in the lecture which was the occasion of Dr. CARPENTER'S letter.

Though it is true, as shown from the records, that Dr. CARPENTER in 1864 presents to the world, with the authority of his great name, that the germ furnishes the ***directive agency***, while destructive metamorphosis, together with external heat, furnishes the ***motor*** to the vital motions; yet as he makes heat the ***constructive*** force, he still does not seem to recognize that Vital force is a ***negative unity***, — an ***organic unity***, including within itself not only the organism, but all external conditions of life. Hence we find that on the first page of his Human Physiology (1864) he defines life as a "***peculiar mode of activity***:" and on the next page, in a note, he explains the condition of a seed before germination as in a state of "***dormant vitality***;" that is, ***a dormant peculiar mode of activity!*** Now, without ***all*** the conditions of life, vital force is not and can not be; and with all the conditions of life, vital force is, and can not but be. Neither vital force, nor any other force, is an abstraction; every force is in negative,—is through mediation. This is the idea upon which rests the doctrine of the "conservation of forces," and without its recognition, no theory of nature and of life can be self-consistent. That idea, in other words, is this: every physical "agent," whether we are pleased to call it matter or force, has its existence, not in itself, but in not-itself; hence, it ***must be*** that in dying, we live; in ceasing, become.

"Conservation of *vis viva*," is an expression which indicates the distinct and definite thought which obtained in regard to mechanical forces in the 17th century, in contrast with the most indistinct and false conceptions which had previously obtained. Since then, it may be said, the modern sciences have had their origin. But these, too, had to make the same preliminary steps which mechanics had been so long in performing. Those who pursued these sciences had, through long, patient, and diligent labor, to gather ***facts*** by observation and experiment. But these facts are, from the necessity of the case, taken from their relations and their truth, and subsumed under the categories of the sensational understanding; they are abstractions. Hence in all these sciences at the present time we have abstract entities, abstract properties, abstract forces, etc., as mechanics had prior to the 17th century. We are now at the dawn of a new epoch, greater in its results than any yet in the history of science. Earnest men in this century, as if by inspiration, have proclaimed the idea of the "Conservation of Forces" universal. One must shut his eyes to see this truth, but there it stands as the "handwriting upon the wall." These earnest men, having made one sublime leap, fall back upon the former stage, and satisfy themselves with the attempt to determine by experiment the equivalent of one abstraction, as it is ***converted*** or ***metamorphosed*** into another; thus putting their new wine into old bottles.

In conclusion, I will venture behind the records so far as to say that the respect I have ever borne Dr. CARPENTER would preclude the possibility that I should intend in my remarks any thing more than seemed called for by the principle of self-protection. I confess that I felt somewhat chagrined to find that, notwithstanding I had been careful to send him my papers, thirteen years afterwards he should promulgate the same views, for the first time, with the authority of his name, without any mention of my previous publications. In so far as I may be forced by circumstances that may arise, to protect myself, I shall not shrink from any responsibility. Any innuendoes referring to the ***propriety*** of my actions in this matter, will be received as altogether gratuitous. It is true, no doubt (for he goes not a little out of his way to so affirm, in his very remarkable letter), that Dr. CARPENTER has long since ceased to care about credit for ***priority*** in any doctrine he has promulgated. Not so with me; whatever my intellectual offspring might be, if I were to fail to claim its paternity, I would consider myself as lacking the first characteristic of manhood.

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Original Communications.

CLINICAL LECTURE ON THE LOCAL TREATMENT OF VENEREAL DISEASE.

Delivered at the St. Louis (Sisters') Hospital, by E. H. GREGORY, M.D., Adjunct Professor of Surgery in the St. Louis Medical College.

[Reported by W. B. OUTTEN, M.D.]

GENTLEMEN :—

Our last lecture embraced a description of chancre, completed, stationary, infecting.

Inoculation proves that indurated chancre begins as a red point, next a papule, and lastly an ulcer, such as you have frequent opportunities of seeing in this consultation. When with its well marked characteristics of induration and specific adenitis, it can not be mistaken for any other ulceration. Do not forget the bare possibility of confusion in diagnosis; an herpetic patch or a trivial excoriation may have a deceptive hardness, resulting from the applications of caustic or irritating substances, which, fortunately, soon disappear under the influence of simple dressings. Again: a strumous condition of the lymphatics simulates closely the engorged ganglia characteristic of syphilis; but care-

ful study and attention to minute circumstances will conduct you to correct conclusions. Remember, the utmost caution should be used as regards the prognosis of every ulceration on the genitals, however simple in appearance, especially when following a suspicious connection. But the especial object of our attention this morning is the treatment of venereal disease. Mark well the points; slight injuries, mere excoriations, and herpetic eruptions demand the simplest possible applications. A favorite remedy in this hospital is a solution of sulphate of zinc, one grain to an ounce of water, and its mode of application, as you have frequently observed, is by saturating a thin flake of patent lint and applying it to the morbid surface; and when the disease is situated on the preputial lining, the lint is kept in place by the foreskin. A similar solution of sulphate of copper, of tannic acid and glycerine, of opium and lime water will answer a good purpose. Scrupulous attention to cleanliness is absolutely necessary. Twice a day is quite sufficient to remove the dressings. The so-called dry dressing is most valuable in the treatment of venereal ulcers; chalk powder, subnitrate of bismuth, calomel, dry lint, etc. The point of all others is to prevent the contact of the morbid surfaces with the adjacent structures.

What is the treatment for chancre, whether hard or soft? *Thorough and complete destruction.* This treatment is proper at every period of the sore prior to the suppurative stage; when the chancre can not be fully exposed, destructive cauterization is impracticable. Again: the situation of he sore is sometimes a barrier to the use of the destructive method; for example, ulcers may be placed directly over the urethra, as they are frequently within the canal, the one situation endangering the opening of the passage, the other being beyond reach. Under these circumstances we are limited to gentler measures, the nitrate of silver astringent lotions and injections.

A soft chancre is a contagious ulcer; destructive cauterization destroys this quality. A soft chancre may produce

a virulent bubo, or otherwise multiply itself on the patient, or be communicated to others, or lastly, it may become phagedenic. All these dire consequences may be prevented by early and thorough destruction.

Hard chancre is destroyed not from any hope of preventing constitutional infection, but for the sake of promoting the healing process, giving our patients' anxieties a certain relief, and guarding ourselves from the imputation of neglect when afterwards constitutional symptoms appear.

Now that your minds are fully impressed with the importance of early and complete cauterization, the question naturally occurs: What is the agent? What is the method? We answer, a drop of nitric acid, or of the liquid nitrate of mercury, applied by means of a simple piece of wood. Take your time about it; wait for a minute; see that every part involved by the poison is touched; then drop oil upon the troubled surface, and dress with dry lint, and combat the inflammation if excessive with cold water.

After the fall of the eschar, examine the excavation with care; if the surface and disposition is not healthy, renew the cauterization; otherwise apply the zinc lotion as directed for simple sores. A most important precaution is to wipe the sore dry before applying the acid. One proper application of this acid is sufficient unless phagedena appears, when the rather profuse use of the escharotic may be necessary. Nitrate of silver is not to be forgotten, as it is not unfrequently a most important agent after the primary cauterization. Ever remember this practical hint which we have so often endeavored to inculcate; viz., the necessity of frequently changing local medicaments, as one lotion however advantageous for a time loses its effect and must be replaced by another. Zinc, copper, iron, tannin, and opium, etc., all in their turn are invaluable. Dry dressing, calomel, subnitrate of bismuth, chalk powder, and dry lint find their application. You have frequently observed the good effect of dusting ulcers with powders. Thus we observe the local treatment of chancres, whether hard or

soft, is the same in all respects. The soft chancre, after the destruction of the virus, is reduced to the condition of a simple granulating sore, and unless bubo or phagedena supervene, your patient is cured. But to these events we call your attention for a moment.

Phagedena, which is common with soft chancre, may be acute or chronic, and is most terrible in broken down, intemperate persons. Acute phagedena is not unfrequently a sloughing sore, attacking the glans and prepuce indiscriminately, and in a short time effecting the most destructive ravages. The sinister character may be declared from the first, accompanied with marked constitutional disturbance of the nature of irritative fever, tending to extreme prostration. It is important, however, to discriminate between the sore originally bad, and that which by casualty has become temporarily occupied by a sloughing from over treatment, for the suitable applications are very different. Rest and soothing remedies for the one; active and painful local management for the other.

The only hope in acute phagedena is the stern application of nitric acid, renewed as often as may be required, to arrest the disease. Meanwhile, the patient must be lulled with anodynes, sustained with beef tea, quinine, and iron. The potassio-tartrate of iron, says RICORD, is the great enemy of phagedena, and may be given in five to ten grain doses every two hours; and a lotion of the same salt, thirty grains to the ounce of water, forms the best local remedy after the free use of the nitric acid.

Chronic phagedena is best treated by the most exact cauterization, reaching every recess of the sore, repeating the nitric acid every day until the disposition of the disease is improved. The actual cautery has been employed with success in these cases. Despite all treatment this peculiar —*serpiginous*—form of ulcer may persist for years.

Bubo, which frequently attends soft chancre, nearly always arises from the absorption of virus from the ulcers, and suppuration is the rule. It is to be prevented by rest

and the early destruction of the sore; to be treated by anodyne fomentations, and, when pus is formed, free incision in a vertical line, to avoid the inversion of the lips of the incision which occurs when the opening is made in the line of Poupart's ligament. An important precaution: when a gland is found in the cavity of the abscess, as pus is frequently formed first in the areolar tissue around a virulent gland, it should at once be destroyed by cauterization with caustic potassa, or removed with a knife. If permitted to remain, it will open in time to inoculate the entire surface of the abscess. Under such circumstances it is well to have chloroform for patient, make a clean surface, and arrest hæmorrhage by dressing with lint saturated with perchloride of iron. If, however, the edges of the wound get inoculated by the specific pus, then we must apply caustic to them as to the primary sore; should sinuses complicate after the acute stages are complete, they must be split up and dressed, so as to granulate from the bottom; and if, after all, the bubo does not heal, the whole of the implicated structure may be destroyed by the thorough application of caustic potassa.

CASE OF "HYSTERIA."

Reported by P. GERVAIS ROBINSON, M.D., of St. Louis.

There is, among the "ills that flesh is heir to," no one class of diseases of more interest and importance than that to which we give the name "hysteria," and which comprises an almost endless variety of nervous affections. These are of interest, because they present some most curious and unaccountable phenomena, which make their appearance often without warning, and disappear not unfrequently with equal suddenness. Of great importance, since we have to determine not between two distinct diseases, but between a real malady and one that is only more

or less closely imitated; and if we commit an error, the unfortunate patient may not unfrequently be made to undergo much suffering and inconvenience, even if the question of life be not sometimes involved. It is unquestionably the fact, that even in this advanced age of medical science, "hysteria" is too often mistaken for the disease it so faithfully imitates, especially where the joints and limbs are involved, and hence we still hear occasionally of miraculous cures effected by laying on of hands, etc. In the last number of this Journal we have a case reported by Dr. MONTGOMERY of what he calls "paraplegia," in many respects similar to the following, which I regard as an interesting example of "hysterical" disease.

January 23, 1868.—I called to see MARY J. F——l, a child of 11 years of age. She had been generally very healthy up to this time. Her father died about a year since. Mother is living and enjoys good health. I could discover no predisposition to any special form of disease. She had complained for a few days previous of some pain in right side and right hip, and on this morning it was found, to the surprise and alarm of those around her, that she had lost almost completely the use of the right leg, so much so that she was quite helpless, and could neither stand nor walk. On examination she presented the appearance of a healthy, well-developed girl; her complexion was a little sallow, but with that exception her general appearance as she lay in bed was not calculated to suggest any disease. Her appetite had been bad for some days past; functions of the bowels and kidneys very well performed; no febrile action. There was found to be pain on pressure on the right side from the border of the lower ribs to the foot of the same side, and extending to the median line of the trunk in front and behind; there was tenderness on touch over several of the lumbar vertebræ. She complained of pain when the knee was struck, the force of the blow being directly upwards along the femur. The sensibility of the skin on this side was strikingly increased, so much so that

the slightest pinch seemed to cause very acute pain. It appeared to me satisfactorily established, after some manipulation, that the pain complained of was located entirely in the cutaneous surface, constituting a true hyperæsthesia of the skin.

When placed on her feet she was altogether unable to preserve the erect posture without help, although she made considerable effort to do so. By holding her hands or allowing her the assistance of the back of a chair, she could be made to stand on either leg, at the same time flexing the other. She appeared to stand without pain or weakness upon the right, but whenever standing upon the left she attempted to flex the right or to raise it from the floor, she would tremble violently and altogether uncontrollably, and could not elevate it beyond an inch or two.

Raising her up by the shoulders clear of the floor and letting her fall upon her heels produced no pain whatever, either along the spine or about the limbs. Directing a blow upon the great trochanter towards the acetabulum was also negative in result. I explained to those interested that the case was of a nervous character, one of the forms of "hysteria," and not to be regarded as serious or in any way endangering the patient's life or limb. I gave the opinion that she would ultimately recover, probably slowly and tediously—perhaps suddenly and completely, if some decided and unexpected moral impression could be made upon her. I directed that she should not be allowed to lie in bed, but should be permitted and encouraged to creep about the room until she regained the use of her limb. She was anxious to have crutches, which were positively forbidden. At my first visit her bowels had been acted on by a dose of oil. I prescribed, rather as a general tonic than from expectation of any special action upon the disease, the following:

℞ Ferri Sulphatis, grs. xij
Ext. Nucis Vomicæ, grs. iv
Fiat massa dividenda in pil. No. 24.
S.—One to be taken morning, noon, and night.

The limb and side to be rubbed with a stimulating lotion, and to have whatever she desired to eat.

February 11.—Up to this date there was no improvement in locomotion perceptible. Two days before this she had an attack of nausea and vomiting, and complained of great chilliness; for the first time had some fever, and was a little delirious for two nights; had also some headache. This was evidently a catarrhal attack, and had no connection with the primary affection. She was quite relieved in 24 hours.

She continued to take the pills up to March 6, when she was given, in addition, a drachm of ammoniated tinct. valerian 3 times a day, as she had had several paroxysms of hysterical laughing and crying. The electro-galvanic current was repeatedly applied, but had to be abandoned as it appeared to inspire an uncontrollable dread and to produce intense pain. Passive motion of the affected limb was now practiced every day, especially in a standing posture. Between the 6th and 16th of March she could move about on her knees and that quite rapidly, and by the 16th she could just walk across the room about 15 feet, supported by the hand of an assistant. Still she managed the right foot very badly, not dragging it as in true paralysis, but throwing it forward violently and with a jerk, so as to bring every part of the sole to the ground at once. From this time she continued to improve and to recover her locomotion, although so slowly as to be almost unappreciable. She improved so far that she could very well get about from room to room by the aid of the furniture, etc. The touch of another's hand, however light, was sufficient to re-establish confidence in her powers of locomotion.

She was in this condition when, on the first Friday in June (this day being celebrated as a holiday in the church of which she was a member), she was advised to pray with an abiding faith for whatever she most desired. She naturally prayed for restoration, and rising from her posture of supplication, found to her great delight that locomotion

was as perfect as ever. She was so overcome with joy, and was so violent in her exercise during the first three or four hours, that it became necessary to restrain her. She is now, July 25th, in perfect health.—

In Dr. MONTGOMERY'S case the cause was distinctly known to be a moral impression made upon an intensely sensitive organization. This influence was so great as to disturb the relations existing between the nervous centres and lower limbs—to interrupt the transmission of nervous force, or to abolish, for the time being, the power proper to the brain of recognizing locomotive force in the parts affected. In this case no medication seemed to have any influence curative of the disease, and relief was brought about suddenly and unexpectedly by a second moral impression which appeared at once to restore the normal relations.

In my case the history is not so complete, inasmuch as there is no *evident* cause; and the cure, although not altogether effected, was clearly completed, by moral influence. The occurrence of this singular affection is somewhat rare in so young a subject; but a year or two later and it might have been reasonable to lay the blame upon the uterus; but there was no evidence of an approach to maturation in the generative organs.

These are cases of what we have been accustomed to designate as varieties of "hysteria," and however inappropriate such a term may be (for it must be allowed that there is in perhaps the majority of cases no traceable connection between the disease and uterine or ovarian trouble, however devoid of pathological significance), still we shall be obliged to retain it until the pathology of these curious affections is understood, and so a more philosophical name be suggested.

In a recent number of the *Quarterly Journal of Psychological Medicine*, Dr. CHARLES F. TAYLOR gives the history and treatment of several analogous cases, and makes these the basis of a paper in which he advances a

theory explanatory of their nature, and suggests the name "Carnomania" as appropriate. To this compound of Latin and Greek he gives the very liberal translation, "insanity of the flesh," which he holds to be the pathological condition. We confess to some difficulty of understanding exactly what may be meant by "insanity of the flesh," which term would seem to claim some sort of spiritual or intellectual attribute for the flesh, or else it is a very great perversion of language.

Dr. TAYLOR goes on to say: "It is the body which sends false or perverted impressions to the mind, and not the mind which imagines falsely concerning the body. The mind recognizes what is sent; it has no choice. The disease is not of the mind but of the body."

We can not say that the doctor has done much in the way of explaining his theory; but, on the other hand, his whole paper appears inconsistent and contradictory. He denies altogether the participation of the mind in this affection, and has no belief in the influence of the imagination, yet uses on page 272 this language: "The defect, then, is in the *consciousness*, which in so-called cases of paralysis is deficient," etc.

Again, on page 293, speaking of the case of a lady who had not stood on her feet for *eighteen years*, and under his care began to walk in two weeks, according to his theory suffering from a disease of the "body and not of the mind," he says: "While there was no organic disease and no defect in the muscles, there was a defect of the consciousness."

Again, in another case, page 297, he says: "The curvature was so slight that it took an experienced eye to detect it. But she was rendered miserable with the *idea* that it was disease of the spine to which she owed her sufferings, and her attention was continually reverting to it, with the inevitable effect of greatly increasing the sensations of those particular localities."

As regards the treatment here pursued, we can discover nothing new. Passive motion, upon which he chiefly

relies, has been long used by every educated man in the profession.

In cases such as that related by Dr. MONTGOMERY, where we can discover the cause, the affection would seem clearly to have originated in some derangement of the nervous system, produced by a decided moral impression, as fright or anxiety. Here some important function of the mind was evidently disturbed, and the connection between the nervous centres and affected limbs temporarily interrupted. To establish the theory that the disease is of the body and not of the mind, it would appear to us necessary to show some antecedent affection about the limbs or organs affected. The mind can not receive false impressions from a limb or part which is not itself unsound.

In Dr. TAYLOR'S two cases, of the gentleman who was cured by a quack of a rheumatic affection of the ankle, and of the other who was in like manner cured of an injury to the foot, he shows very satisfactorily that the trouble was altogether in the mind, and that as soon as the impression of continued lameness was removed by handling of the parts, the sufferers were relieved. These cases bear no analogy to "hysteria," since there had existed previously well defined inflammatory action in the parts involved, and the mind still retained the impression of suffering.

As Mr. SKEY remarks: "We call the disease 'local nervous irritation.' We have no very definite idea of what we mean by irritation. We all employ it, and so general is its use that I don't know how we can get on without it." We think, therefore, the name "hysteria," though it may occasionally lead to misapprehension, will continue to be used until some better substitute is proposed than that of "carnomania."

CASE OF RUPTURE OF THE WOMB.

Reported by W. W. GRISSOM, M.D., of St. Louis.

I am about to relate a case of rupture of the uterus, the progress of which differed so widely from the train of symptoms sketched in the textbooks, that it may be of interest to others. There was none of that immediate collapse which is said to follow the accident: the cold extremities, thready pulse, intense anxiety, fainting, vomiting, etc., etc.; and the patient survived the shock to die finally of inflammation of the peritoneum and uterus, and gangrene of the wounded part.

I was called on the morning of the 29th of May, 1868, at 6 1-2 o'clock, to see Mrs. McG., æt. 34, in labor at full term with her ninth child. She had been taken with labor pains at 10 o'clock on the morning of the 28th, though they were not of sufficient severity to prevent her from going about during the day. About 5 P. M. the pains had increased so that she was put to bed. During the night the pains were of considerable force, and at about 5 1-2 A. M. of the 29th, she had a very severe one, from which time the pains ceased altogether. When seen by me at 6 1-2 o'clock her pulse was 85 per minute, there was no marked anxiety of countenance, and she appeared perfectly rational. She complained only of cramps in the bowels; she had taken a dose of oil the night before, which had acted well, and there being some distension of the bladder, I drew off the urine with the catheter. On making a vaginal examination, I found the head lodged in the superior strait, the os fully dilated, the cord prolapsed and no longer pulsating; hæmorrhage had been very slight. Supposing it to be simply a case of inertia of the womb, I administered wine of ergot in drachm doses every twenty minutes, until she had taken about six drachms. Finding that the ergot produced no effect, and believing it would be necessary to deliver by the forceps, I dispatched a messenger at 8 o'clock

for Dr. PREWITT, with the request that he would bring a case of instruments. When he arrived he made an examination per vaginam, and found that the head had receded beyond reach, and he expressed a belief that rupture of the womb had taken place. Upon further examination we found this to be too true.

The further steps in the delivery I give in Dr. PREWITT's own words: "On introducing the hand it could be readily passed through the rent, which was situated anteriorly, into the cavity of the abdomen. The head of the child was resting on the brim of the pelvis anteriorly, with the abdomen towards the spine of the mother. The womb could be felt firmly contracted in the right iliac region, and was at first supposed to be a tumor which had had something to do in obstructing the labor and causing the rupture, as it was not anticipated from the readiness with which the hand could be passed through the rent that the child had passed completely into the cavity of the abdomen.

"Yet such proved to be the case. The womb was resting, as stated, in the right iliac region, firmly contracted, and partially clasping the detached placenta. Finding the feet could be readily reached, and believing from the facility with which the hand could be passed through the rent that the child could be drawn through it, I at once proposed to turn and deliver, and Dr. GRISSOM concurring, the woman having been placed under chloroform, we proceeded to make the attempt, exercising great care not to entangle the bowels or omentum. Version was easily accomplished, the process being untrammeled by the contracting uterus; the feet and body were readily drawn through the rupture and delivered; but there being no expulsive force, the head after passing the superior strait did not glide readily along the plains of the pelvis. It became necessary to force the face into the hollow of the sacrum by manipulation, which was accomplished with the finger and vectis. Finding still great difficulty in delivering the head, we determined

to perforate, which was accomplished through the occipital bone. A blunt hook was introduced, and with the finger in the mouth, the delivery was readily completed. The child was a male, weighing about nine pounds. The placenta was then removed, very little hæmorrhage taking place. On introducing the hand, the rent seemed to have taken place in the anterior wall of the vagina, and involving about one-third only of the wall of the uterus proper, the hand gliding readily through the opening in the yielding tissue."

When I introduced my hand after delivery, I found the bowel in the rent, and replaced it in the abdomen. I was of the opinion at that time that the rupture was confined to the body of the uterus, and so expressed myself to Dr. P.

The delivery ended about 9 1-2 o'clock A. M., at which time the pulse was 85 per minute, with evidence of considerable prostration; prescribed brandy and morphine. At 12 M. I found her in great agony; ordered one-fourth of a grain of morphine every half hour until relieved. At 4 P. M. pulse 90 and full; pain relieved. At 8 P. M. she was fully under the influence of the narcotic; respiration somewhat sighing; pupils not contracted, however; readily roused, and answered promptly; pulse 120, and feeble; marked tenderness over the abdomen; some tympanites. Ordered strong coffee; the morphine to be repeated during the night if restless or suffering.

May 30th, 8 A. M.—Had slept well during the night; pulse 140, feeble, but regular; skin moist; conversed freely, voice strong, spirits good; had passed water, but no action from the bowels; tenderness and tympanites about as before; no pain; lochial discharge normal; no indication of hæmorrhage. Patient expressed a desire for food.

I saw her at 2 P. M. in company with Dr. PREWITT; pulse 120, good volume and soft; skin moist and relaxed; some thirst; tongue coated with white fur; had passed water; bowels still closed and tympanitic; tenderness not

very great; expression of countenance good. Continued morphine.

8 P. M.—But little change; pulse rather more feeble; had taken some beef tea. Morphine continued.

May 31st, 8 A. M.—Patient had rested well during the night; pulse 120, soft and regular; bowels not moved; lochial discharge continues; had been sitting up at 7 A. M., contrary to the strictest injunctions, to have bed made and linen changed; very little tenderness over the abdomen generally, but considerable in the iliac and hypogastric regions; knees not drawn up, and no complaint of the weight of the bed clothes; tongue still coated; had taken some nourishment; was in good spirits. Continued morphine.

2 P. M.—General condition same; pulse 110, and harder; had been up in absence of nurse to pass water.

8. P. M.—No change. Continued morphine and hot hop fomentations.

June 1st, 8 A. M.—Saw her with Dr. P.; she had not rested so well, having suffered some pain during the night because the nurse failed to administer the anodyne regularly; pulse 120; tongue coated with brown fur, but skin moist and relaxed; bowels still unmoved. She desired food, and was ordered milk and beef tea. Treatment continued.

2 P. M.—Pulse 144, weak, and somewhat irregular; tympanites somewhat increased; tenderness about the same; lochial discharge continues; the woman about the house had given her gin and beer during the forenoon.

June 2d, 8 A. M.—Pulse 146, soft and irregular; bowels moved at 7 A. M., passage thin, dark, and offensive; abdomen tympanitic, but tenderness not great on pressure; tongue coated with brown fur, red at tip, but moist. She had taken during the morning nearly a pint of milk and some tea. Continued treatment.

4 P. M.—Pulse same, but weaker; extremities cold; skin clammy; there was no disposition to vomit.

June 3d.—We saw her again at 8 A. M; pulse 132, feeble but regular; tongue still coated and red; two actions from the bowels during the last twelve hours, thin and dark; lochial discharge suppressed. During the night she had vomited dark, bilious matter; stomach now more quiet; mind clear. Continued treatment.

4 P. M.—Much worse; pulse 160, feeble and irregular; great prostration; breathing difficult and labored; extremities cold. Continued to grow worse, and expired at 10 o'clock P. M.

Post mortem examination 14 *hours after death.*—On opening the cavity of the abdomen a considerable quantity of dark-colored offensive fluid escaped; the odor at once indicated gangrene. The bowels were found very tympanitic; their peritoneal surface was covered with lymph which glued the bowels together, and to the abdominal walls; the omentum was gathered into a roll, and adherent to the parietes in front; the uterus could be seen projecting above the brim of the pelvis, and smeared with lymph; the colon was very much distended, and in the right iliac region very dark; on seizing the uterus, it was found to rest closely against the anterior wall of the pelvis, and partially glued to it by lymph; the adhesions of the uterus to the colon and surrounding parts in the right iliac region seemed firmer and of longer standing than those of other parts; on removing the uterus, the rupture was not found to involve the vaginal wall, as was supposed by Dr. PREWITT at delivery, but to commence just above the junction of the vagina with the cervix, anteriorly and to the left of the median line, and extending upwards and inwards so as to present an opening in the uterine walls proper of about four inches, though the opening in the peritoneum was greater in extent and more to the left. The edges of the rent were ragged and gangrenous; the bladder was empty and contracted; the veins of the broad ligaments, especially those of the right side, were enlarged and gorged with dark clotted blood; the symphysis pubis

presented posteriorly an unusually projecting ridge, which may have had something to do in determining the rupture. There was no lodgment of any portion of the intestines in the rupture; in fact, the close apposition of the anterior wall of the uterus and vagina against the bladder, symphysis, and lower portion of the abdominal wall had virtually closed the opening.

702 NORTH FOURTH STREET, July, 1868.

CASE OF WOUND OF THE BRAIN. WITH REMARKS.

By JOHN T. HODGEN, M.D., Professor of General, Descriptive and Surgical Anatomy, Military Surgery and Clinical Surgery, St. Louis Medical College.

I was called at 7 A. M., March 26th, 1868, to see B——, who had been injured a half hour before I arrived. He was a thin man of wiry frame, fair skin, blue eyes, light hair, and active habits.

I found a cut 3 1-2 inches long in the right side of the head, beginning one inch to the right of the median line of the head, and one and one-half inches behind the corneal suture, and extending forward and to the right in the direction of the outer angle of the right eye. This cut extended through the skull in its posterior two inches. The wound was inflicted by a hatchet, the corner of which had penetrated to a depth that I did not determine. The blood filling the cut pulsated distinctly with the brain. He had lost about a pint of blood, and it was still flowing. An adhesive strap with compress and bandage approximated the wound in the skin, and checked the flow of blood externally. B. was quite rational, not paralyzed, and could walk.

Three hours later I saw him again; blood was oozing beneath the compress; this, with the bandage and strips of plaster, was removed, and cloths wet in cold water applied. Blood tinged the water for a few hours and then ceased. Pulse and respiration natural, and no paralysis.

March 27th (2d day).—Pulse 70; respiration slow. Patient is inclined to sleep. Left arm, leg, and left side of trunk paralyzed; also portio dura, glosso-pharyngeal, and hypoglossal (all on left side). The third and sixth nerves were partially paralyzed.

28th (3d day).—The paralysis better marked; patient is aroused with difficulty, but answers quite rationally.

29th (4th day).—Paralysis of cranial nerves less marked; that of left limbs complete, so far as motion is concerned.

31st (6th day).—Paralysis of cranial nerves improving, and now there is no stupor; has had no treatment except a cathartic and cold to the head.

April 3d (9th day).—B. has remained about the same until this morning, when it was observed that he was more inclined to sleep.

4th (10th day).—Is decidedly dull; pupil of right eye dilated and fixed; vision good in both eyes; pulse 68; respiration 20.

6th (12th day).—Pupil of right eye dilated, but slightly sensitive to light; left limbs are rigid; can not be aroused to speak or protrude the tongue; no hyperæsthesia of any part observable; pulse 92; respiration 20; conjunctiva of left eye inflamed with muco-purulent discharge; urine passes involuntarily, though the bladder is not full.

7th (13th day).—Pulse 96; respiration 20; pupil of right eye dilated, but responds tardily to light; 3d, 6th, sensory 5th, motor 5th, portio dura, glosso-pharyngeal and hypoglossal of left side, together with the left side of trunk and left extremities, completely paralyzed; patient is aroused with some difficulty, but is entirely rational; muscular rigidity of left arm and leg marked; has hiccough; ordered chloroform by the stomach.

April 8th (14th day).—Easily aroused; rational; right pupil smaller, and responds to light; eyelid inclined to close.

9th (15th day).—Pulse 94; right pupil more sensitive and less dilated; patient eats and drinks; face not so much

drawn to right; he can protrude the tongue and move it freely in any direction, but it is protruded to left.

10th (16th day).—Right pupil still small and more sensitive; patient is easily aroused, and entirely rational; takes food and drink.

12th (18th day).—Pulse 98, and more full; he takes nourishment freely; the left eye has gained its power of motion; left side of face not perceptibly paralyzed; tongue freely movable, but inclines to left; ptosis of right eye; pupil natural; patient is easily aroused; prefers rest; is rational.

16th (22d day).—Much improved; wound filled up and healing without a drop of pus; the paralysis of the cranial nerves has almost entirely disappeared, but there is complete muscular paralysis of the left arm and leg with rigidity.

24th (30th day).—Rational; good appetite; complete motor paralysis in left arm and leg; sensibility unimpaired; portio dura of left side a little affected, and pupil of right eye a little larger than left.

30th (36th day).—Sits up every day; motor paralysis of left leg continues; an immense slough on back of pelvis.

May 7th (43d day).—Slough on sacrum separated, and parts are healing rapidly. Can flex and extend fingers and forearm; also leg, foot, and toes.

June 6th (73d day).—B. has so far recovered that he walks with a stick; is gaining flesh and strength rapidly.

June 15th (82d day).—Walks without stick, but left limbs are weak; left this day for Connecticut.

Remarks.—There are certain points of practical interest that I can not with propriety pass without remark.

We find here an extensive wound involving the skin, bone, and brain with its membranes, all left open with a clot in the brain substance, healing without discharge of pus. The reparative process was here carried on without waste; the vital energies were just sufficient to repair with-

out over-action. This was fortunate; for had there been much drain, in the condition of extreme debility to which the patient was already reduced, he must have died of exhaustion. At one time the symptoms of compression were such as to excite the inquiry, whether it would be proper to use mechanical means for the removal of the clot; as the record will show, this was not done,—and I seriously question whether it is ever proper to trephine for the purpose of removing a clot.

Again: inflammatory symptoms were only combatted by cold and a purgative—no mercurials, no blood-letting; and yet we find the inflammation subsiding as it does usually when active measures are employed. This case allows me an opportunity of saying, that I doubt whether all the cases of inflammation that recover after the use of antiphlogistics are cured by the treatment. Thus far the above case was fortunately treated; but there was one very serious neglect,—I refer to the neglect that permitted the patient to lie on his back until a slough formed on his sacrum. This could and should have been prevented. No patient should be allowed to be in one position more than twenty-four hours without changing the points of pressure. Bed sores can always be prevented, and their occurrence is always evidence of neglect on the part of the physician, friends, or nurse.

By the use of the water or air bed the pressure may be diffused, or by cushions or change of position the points may be so shifted that neither a slough or ulcer will occur.

Had this patient died, a post-mortem examination would have made it one of great interest, for then we should have had an opportunity of learning what parts had been involved, and the character of the changes that gave rise to the symptoms presented. As it is, we are forced to take the symptoms as our guide to the parts involved. With our imperfect knowledge of the functions of the various ganglia of the encephalon, and their relations to each other, we can not with much certainty say what parts were and what

were not injured. Twenty-four hours after the receipt of the injury, symptoms of compression of the brain made their appearance, and the time of their occurrence is conclusive evidence that they were dependent on pressure from blood, and not due to displaced bone or the presence of pus; for if from the first, they would have been present from the receipt of the injury; or if from the last, not until eight or ten days had allowed time for this inflammatory product.

At this time (twenty-four hours after the receipt of the injury) we find paralysis of certain nerves distributed to that side of the body opposite the injury, as the 3d, 6th portio dura, glosso-pharyngeal, and hypoglossal; also the nerves of motion supplying the left arm and leg, with left side of the trunk.

So far as the trunk and limbs are concerned, we can understand why paralysis existed opposite the injury. The fibres crossing in the anterior pyramids from the right centre of volition to the left centre of the spinal cord would be the track of volition.

This is not so clear as regards the cranial nerves involved, unless we admit what is possibly true; that the anterior, middle, and posterior commissures of the third ventricle are the bridges by which the centres of volition on one side are associated with the ganglia giving origin to the cranial nerves on the other. On the 4th day the paralysis is less marked in the face, eye, and tongue; this would indicate that the blood is being absorbed, or that the ganglia are accommodating themselves to the pressure, and that one or both of these things having occurred, the ganglia and commissures are beginning to perform their proper offices. This improvement continued until the 9th day, and now it is observed that there is stupor, probably due to inflammatory products taking the place of the blood as a compressing agent. On the 10th day the pupil of the right eye is dilated, showing the extension of compression to parts not originally involved by the clot. On the 12th day the iris

of the right eye responds to light slightly, though the patient is aroused with difficulty, this indicating that those parts, as it were, on the borders of the parts involved by inflammatory changes are being relieved first, while the parts more centrally situated (so far as the injury is concerned) are not yet relieved from the causes that interfere with their functions. Also, on the 12th day the left limbs are observed to be rigid. This points to the character of the change as being irritative, and also that the ganglionic centres are not destroyed. The paralysis in the other cranial nerves with the spinal continues, this single point, the locus niger, supplying the third nerve of the right side, being the only one in which there is as yet evidence of a favorable change.

Three days later, or on the 15th day, it is observed that the tongue begins to regain its power through release of the hypoglossal of the left side. Now, also, the portio dura through returning power partially corrects the distorted face.

One day later the cerebral hemispheres begin to perform their usual offices; the patient is rational and more easily aroused.

The 22d day finds the paralysis of the cranial nerves almost relieved, so the patient goes on to entire recovery, the limbs being the last to recover their power. A gradual subsidence of the inflammation, from the periphery of the disturbed locality toward the centre, and absorption of its products beginning in corresponding parts and proceeding in the same direction, finally release the parts once involved, and their offices are once more properly performed.

I may here observe that the inflammatory changes seem to have been confined to the parts originally disturbed by the clot, except in the case of the third nerve of the right side.

Pressure may be exerted by a foreign body on a ganglionic centre, either directly or through other parts. Thus the striated bodies are so near the optic thalami, that one

can hardly be seriously interfered with by pressure without disturbing the other.

Now I do not suppose pressure was directly made on the locus niger or the origins of the sixth, hypoglossal, or glosso-pharyngeal, though it may have been direct on the origin of the fourth, portio dura, optic thalami, and striated bodies, for these, as we know, are parts lying next to and forming the walls of the lateral, third, and fourth ventricles of the brain; and in this case there can be but little doubt that the wound penetrated the right lateral ventricle, and it is possible blood passed from this into the third, thence into the fourth ventricle.

Admitting, then, that blood occupied these ventricles and pressed upon the origins of the third, motor fifth, sixth portio dura, glosso-pharyngeal, and hypoglossal, I do not quite understand why it should press more on the right than the left, or the reverse, but it seems to me, so far as pressure on these centres is concerned, it must have been equal on the right and the left.

It is as certain that destruction of the locus niger will cause paralysis of the third nerve, as it is that breaking up any part of the spinal cord will paralyze the parts supplied therefrom. If the spinal cord be severed, all parts supplied by nerves coming off from its ganglionic centres below the point of injury are paralyzed, yet the reflex power of these ganglia remains.

May it not be true that cutting the connection between the organ of the will and the origin of the third or any other of the cranial nerves will cause paralysis of that nerve? Are we therefore forced to the conclusion that in the case related pressure was either directly or indirectly made on the ganglia giving origin to any of the cranial nerves involved, any more than we are that pressure was made on any part of one half of the spinal cord? I think not. Then why lay so much stress on the particular spots with which individual nerves are connected? Are these ganglia in any case anything more than switches on the

railroad track of the nervous system, by which the will power, or its correlative force, is directed to one part or another as may be necessary to the life and health of the individual?

I take the position, then, that blood did not pass into the third and fourth ventricles and press upon the ganglia of the third, sixth portio dura, hypoglossal, and glosso-pharyngeal nerves, for if the paralysis were due to pressure, then it would have been as much on one as the other side.

And if we have paralysis of the parts supplied by nerves arising in the ganglia of the spinal cord dependent on pressure or other disturbance of ganglia situated within the cranium, and connected by commissures with the spinal centres, we may also have nerves of the cranial group arising in separate ganglia paralyzed by injury of the great centres of volition, or the commissures connecting these with the origins of the cranial nerves.

AUGUST, 1868.

A CASE OF DOUBLE-HEADED MONSTER.

Reported by L. CH. BOISLINIERE, M.D., of St. Louis.

Through the courtesy of Dr. E. FEEHAN, of this city, I was furnished with this interesting case of human monstrosity. The day before he had safely delivered the mother by the forceps and version, causing the body and second head to perform what accoucheurs have described under the name of spontaneous evolution, or rather, spontaneous version, as Prof. HODGE properly calls this process. The heads were those of children at full term, with perfect, and even handsome, features, and the body that of a large male child. A necroscopic examination of this very rare *pièce anatomique* was made a few hours afterwards by Prof. A. HAMMER; and Prof. A. J. STEELE, of this city, who assisted at the examination, kindly furnished me with the following notes taken at the time.

There were present two vertebral columns, entire and separate; pelvis single; two sacra, separated by a rudimentary mass of bone; two inferior extremities; two heads; three arms; one bifurcated sternum, and ribs of opposite sides articulating with it; posterior ribs fused, making a ridge in the median line, which, when viewed cursorily, resembled a third vertebral column; four clavicles; four scapulæ, the two median being confluent at their angles; the third, or middle arm, contained one humerus which was double-headed, with two articular facets at its superior extremity; one ulna; two radii; two hands, with the little fingers merged into one, thus making nine fingers for the two palms, thumbs turned outwards; two stomachs, normal; intestinal tracts double for their superior two-thirds, being merged and single for their remainder or lower portion; one rectum; one anus; the liver formed of two right lobes fused and contained in a common investment; two gall bladders, the right being rudimentary; two spleens, found in the thoracic cavity, one to the right, anterior, the other to the left, posterior, had escaped from the abdomen through an opening one inch and a half in diameter, which existed in the left leaflet of the diaphragm; two kidneys; one bladder; one penis; two pairs of lungs; two hearts—the lungs and hearts being normal.

Fig. 15.

The examination was not as complete as desirable, having been somewhat hurried through on account of the great heat. But the specimen having been kept in alcohol,

as soon as practicable. I hope to be able to furnish a more thorough description, especially of the bony structure of this monster. I present here a cut (Fig. 15) from a photograph taken at the time.

In the classification as adopted by FISHER, of New York, who has devoted much study to this subject, and whose nomenclature is very simple, this monster would be described under the head of Diploteratography, Order I. *Catadidyma:* Genus III, *Dicephalus:* Species 4, *Dicephalus tribachius dipus.* (Synonyms,—*Dérodyme*, *Derodymus*, F. LAUTH, and GEOFF. St. HILAIRE; *Omodyme*, *Omodymus*, LAUTH; *Tetrachirus choristocephalus*, GURLT [on Animals]).

I will add that in the various writers on this subject I can find only one case of malformation exactly similar to the one above described.*

The mother made a perfect recovery, and can not trace this anomaly to any maternal impression or injury received during pregnancy.

AUGUST, 1868.

*The author very probably refers to the case reported by BARKOW (*Monstra animalium duplicia per anatomen indagata, Tom.* I, p. 17). figured and described in FOERSTER'S *Missbildungen des Menschen*, Jena. 1861, plate i, figure 2. The differences between this case and that of Dr. BOISLINIERE are very slight: there were but two scapulæ and two clavicles; the little fingers were entirely separate, the third arm bearing ten fingers; there was but one gall-bladder and but one spleen.—FOERSTER, however, mentions that he has noted 25 cases of Dicephalus tribachius, one other of which he figures, plate VI. fig. 4 (from ZIMMER). In this case, however, the left individual is affected with hemicrania and complete spina bifida. Otherwise, the conformation of the skeleton is still more nearly alike to that in Dr. BOISLINIERE'S case than in the one above quoted.—ED.

Reviews and Bibliographical Notices.

THE INDIGESTIONS: or Diseases of the Digestive Organs functionally treated. By THOMAS KING CHAMBERS. Honorary Physician to H. R. H. the Prince of Wales, Consulting Physician and Lecturer on the Practice of Medicine at St. Mary's Hospital, etc., etc. 2d Amer., from the 2d revised London edition. Philadelphia: Henry C. Lea. 1868. 8vo., pp. 319. Price, $3 00.

[For sale by the St. Louis Book and News Co.]

An unusually agreeable task has been imposed upon us; we have read Dr. CHAMBERS' "Indigestions" with satisfaction and pleasure rising with every new chapter, and we sit down to an analysis of its contents with the comfortable feeling that criticism is out of place, and nothing but a review is required to express our favorable opinion of the book. Dr. CHAMBERS' manner of treating his subject is not the only good way, nor his point of view the only one from which a successful exposition of the derangements of the digestive functions is to be expected;—but, for one, it is excellent, and we may not too highly recommend it.

In order to convey a general idea of the plan and spirit of the book, we can not do better than introduce a few extracts from the introduction. It is well known that Dr. CHAMBERS holds very definite fundamental doctrines in pathology, not so much peculiar to himself as rather presented (elsewhere) with peculiar force and originality. Here is a small specimen in point:

> Indigestion is a chronic disease. By that I mean that its natural path is straight on from bad to worse, unless from the interposition of some extraneous circumstances of accidental or designed origin foreign to the phenomena of the disease itself. Hence it is not difficult to test upon it the action of a remedy. A cautious observer may from a moderate number of well-considered cases come to a rational conclusion as to its value. On the other hand, the tendency of acute disease, as I understand it, is to progress in a circle toward the recovery of health; each process, however dangerous and abnormal it may be, being a step toward the final arrival at that result, if only the patient's strength hold out. Art, therefore, modifies it much less glaringly; a small experience is sure to lead to fallacies, and it is only in the numerical comparison of a large number of unprejudged cases that an opinion can be formed.

For this reason the failure of homœopathy in the cure of the digestive function is very conspicuous. I suppose a good third of the private patients who come to me with dyspeptic ailments have tried this system, and confessedly tried it without advantage; though some of the same people still continue to think that in acute disease, in scarlatina, catarrh, measles, rheumatic fever, pneumonia, and the like, the convalescence is brought about by homœopathic drugs.

And let us understand at the outset, what Dr. CHAMBERS distinctly states, that he treats of indigestions not only as separate diseases of the digestive organs, but also as derangements of the digestive function in disease generally. It is important also to note the author's definitions. In ill health, digestion becomes *slow*, *defective*, and *painful*. Dr. C. has some Greek names on hand for these disorders, but prefers to use the above "English adjectives": "for when we have given a proper name with a capital letter, we are apt to think (like a naturalist with a butterfly) that we have defined an individual and active motive power, instead of what is really the *deficiency* of a function."

By digestion being *slow* I mean that the act in some part of the alimentary canal is not completed by the time when the convenience of the individual requires that it should be completed. The stomach may retain so much of a former meal that it is not in a fit state to receive the new one, which is needful to the sustenance of the body. Hence arises a want of the natural appetite and (when it is long continued) imperfect nutrition, anæmia, debility, etc. Or, if we attempt to force food too quickly on the unwilling stomach, we have chemical decomposition and defective digestion as consequences.

The average time by which the stomach should have naturally emptied itself varies in different healthy persons from two to four hours. The intestines have extracted all that they are capable of absorbing in eight or nine hours; and the relics of complete digestion are ready for expulsion from a vigorous young person in twenty-four hours.

By *defective* digestion, I would imply that food capable of nourishing the body can not do so from lack of certain changes which it should naturally undergo in the alimentary canal. It is passed from thence either unaltered or chemically decomposed. There are seen in the feces, either by the naked eye or the microscope, masses of starch, muscular fibre, fat, etc. I have several times had them brought to me, under the idea that they were worms, pieces of intestine, or other foreign bodies. Or else the products of their decay, consisting of various obnoxious gases and acids, are developed in a quantity subversive of social comfort.

Painful digestion may be both defective and slow; but, on the other hand, it not unfrequently also is complete and performed with sufficient quickness. All that it is intended to express by the word is its accompaniment, at some stages of its progress, by feelings varying from slight discomfort to absolute agony.

The division into chapters is made in accordance with another train of thoughts, and the words in which the author expresses these seem to be best calculated to afford a clear view of the objects and limits of the book:

A very practical division of cases of indigestion is derived from the substance which is indigested, namely, which of the chief constituents of the diet, whether (1) *Starchy* and saccharine, (2) *Albumenoid*, (3) *Fatty*, or (4) *Watery* food most exhibits the failure of the function. This is to be learnt partly from the patient, and partly from observation of the consequences which ensue to the alimentary mass. On it is grounded an important part of the treatment, namely, the dietetic; and as its indications are simple as well as valuable, it will come first under observation.

A very essential step in the cure of indigestion consists in the removal of its external causes, where these are removable. The following chapter therefore will be on "Social Habits," by which I mean causes dependent on the patient's will. There is one obvious practical distinction between these and other causes, namely, that the discovery of them is the true cure. You may bid a man cease from over-eating, over-fasting, or smoking, but you can not bid him cease from being poor or sorrowful, from having tubercle in his lungs, or an ulcer in his stomach.

The subsequent chapters treat of symptoms: pain, vomiting, flatulence, diarrhœa, constipation.

Now, remark, I avoid calling these phenomena diseases *of* the salivary or gastric glands, *of* the intestines, or *of* the colon. They are not so, and must not be treated as such. The discomforts felt soon after a meal, for example, may be due to organs far away from the stomach—to the uterus, to the kidneys, to the lungs—yet they must be called by the same names as when they are owing to anatomical changes in that part. So these occurring later often are traceable not to anything wrong in the duodenum, ilia, or colon, but to excess of gastric mucus or deficiency of pepsine. . . . These phenomena almost always require separate treatment of themselves in addition to the general condition from which they originate. . . . . I have thought it better therefore in this treatise to discuss each symptom separately, where it requires separate treatment, or in groups of several together, where the pathology and therapeusis admit of union.

The concluding chapter treats of nerve disorders connected with indigestion.

The two chapters first spoken of (II, on indigestion of various foods, and III, on habits of social life leading to indigestion), embrace those of the author's positions which, from the novel and practical mode of presentation, appear to be the most original and to claim the greater share of our attention. In rendering an account of them we will endeavor to retain the author's own language as closely as possible. The first section

of chap. II is on the *indigestion of starchy food.* Dr. C. thinks that the conversion of starch into sugar, by means of the saliva, takes place with exceeding rapidity; that a very great part of the sugar made is absorbed in the mouth and gullet,—sometimes all of it! For the reduction of starch it is necessary, first, that the salivary glands should secrete a sufficiency of suitable fluid, and supply it as long as any starch remains unconverted. But as many of the amylaceous granules escape being ruptured by cooking, they can not be affected by the saliva till their albuminous envelope has been dissolved by the gastric juice; therefore this secretion also is necessary to the digestion of starch. Finally, the author thinks a normal state of the œsophagus indispensable, because the greater part of the sugar made should be absorbed before it arrives at the stomach—(a statement which appears highly questionable and is certainly at variance with the teaching of most physiologists). Requiring so much, and so much that is soon affected by outward circumstances, the digestion of starchy food suffers the first, the most completely, and the most commonly.

The first case by which this chapter is illustrated is one where dyspepsia was produced, under the influence of mental depression, by an exclusive use of amylaceous food. Meat diet was alone sufficient to remedy the case. The rationale is given thus:

> Gastric juice is required to rid the digestion of starch by dissolving the albuminous envelopes of the granules; gastric juice is a highly animalized fluid; to make it animalized fresh blood is a *sine qua non;* and the material of which that is quickest made is meat food.

In another case—

> The digestion of vegetables was *slow* and *defective*, while that of meat was only *painful.* For the cure meat was a needful medicine, and therefore the first thing to be done towards the cure, was artificially and by drugs to stay this inconvenient pain. To have stayed the pain without supplying the meat would have been merely palliative or allopathic treatment; to make the anæsthesia a stepping-stone to the formation of gastric juice out of albuminous food was strictly restorative.

Other cases are adduced to show the causation of an indigestion confined principally to amylaceous substances, by mental exertion, unwholesome air, organic diseases, *e. g.*, albuminuria, diseases of the heart, etc., or even "those more recondite alterations of the nervous system which are provisionally termed functional." Muscular exhaustion is a frequent cause of this kind

of dyspepsia, either where some extraordinary exertion brings on a temporary inability to digest all food, but especially vegetable,—or where the indigestion of starchy food recurs habitually after even moderate exertion. The mind operates as a disturber of digestion in various ways,—by too much brain-work, sudden mental shock, mental distress of a wearing character, etc.; and mental causes are especially powerful when joined to some previous pathological condition.

The digestion of *albumen* and *fibrine* is independent of the salivary glands, and takes place later than that of starch. It is therefore less interfered with by external circumstances. It is through the nervous system in almost all instances that proteinous indigestion arises. There is great practical worth in Dr. CHAMBERS' caution against overhaste in the desire to renew the flesh lost after acute fevers; a diet of solid meat under such circumstances is apt to bring on an attack of feverish indigestion, sometimes vomiting, which throws the patient back some days.

It is to be remarked that it is not so much the chemical composition as the form of the aliment which renders it improper for incipient convalescents. Through the whole course of a typh-fever a continuous supply of liquid flesh in the shape of beef-tea has been kept up. If the stomach could not digest it the intestines did, and so the patient's strength was sustained. But give him a meal of roast beef, and it rolls about in the stomach till it decays; digestion is impossible, and it causes diarrhœa.

This caution is most requisite in cases where a relapse is possible. As for example in fever, of either typhus or typhoid type, where the bowels have become inflamed. Here solid meat may bring back the worst features of the disease.

But especially in rheumatic fever there is a painful necessity for restricting the supply of nutriment. . . . .

In acute diseases the condition of the stomach which prevents it from digesting meat is merely temporary, and all that is requisite is patience. But where the failure of the organ is chronic the affair is much more serious. A state of anæmia is induced which is a long time in being recovered from.

The deficient digestion of animal food in some cases of pulmonary consumption is a very serious thing. Our author explains it as an effect, not a cause, of the consumption, (though it reacts upon and aggravates the pulmonary injury), by assuming that the condition of the mucous membrane induced in the lung by the presence of tubercle may be communicated to the stomach. (?)

The digestion of *fat* is quite independent of the salivary and gastric fluids. Hence, even when they are in a morbid condition, and when

the digestion is so slow that the meals are detained long enough for the fermentation set up to extend itself to the fatty matters present, and to develop butyric and other oily acids, still sufficient fat is digested to keep up the nutrition of that tissue in the body. Nay, patients with indigestion of starch and albumen will sometimes even get obese, especially if large eaters. Several specimens may be found in this volume.

The most familiar instance of the indigestion of fat is found in that disease which gets its name from the characteristic phenomenon arising out of that indigestion—Phthisis. In tubercular consumption the body wastes away, not because of the destruction of fat being increased, but because of its renewal being arrested.

Its renewal is arrested primarily and directly by any disease which affects the ilia, such as diarrhœa especially, because the ilia are the immediate instruments of its absorption; secondarily by the inefficiency of the secretions which assist in its solution and alkalization, such as the pancreatic juice and bile; in a less degree by the colonic or fecal viscera; and by the other organs of the body just in proportion as they influence indirectly these.

It is truly, says Dr. CHAMBERS, by aid of the digestive viscera alone that consumption can be curable. Medicines addressed to other parts may be indirectly useful sometimes, but they more commonly impede the recovery; whereas aid judiciously given in this quarter is always beneficial and often successful.

The chest is the battle-field of past conflict, the lymphatic duct the drill-ground for new levies of life.

The effects of cod-liver oil become less and less a marvel the more we know of physiology. An instinctive desire is shown by all nations for an oleaginous diet; it seems felt to be, as science shows that it really is, a necessary material for the renewal of the tissues, and the desire for it becomes synonymous with a desire for augmented life. To find the easiest assimilated oil, and to prepare the digestion for the absorption of oil, are the main problems in the cure of consumption. So says our author. We can not help thinking that his views on consumption, however defensible in the abstract, are pushed beyond their proper limits and on the verge of being one-sided; we present them, however, as we find them.

Indigestion of fat may be unaccompanied by loss of appetite, if it depend on the fault of the lower part of the intestinal canal and its lymphatics. But in other cases there is found a disgust to fat and all that contains it, and causing even repugnance to meat. because all meat is scented by its own peculiar fat.

At the close of this section, Dr. C. expresses a very favorable opinion on DOBELL'S artificial emulsion of fat with pancreatic

juice, regarding it as an easily assimilated oleaginous material, and a most valuable contribution to the restorative pharmacopœia.

The fourth section of this chapter treats of the indigestion of *water.* A reference to the conditions which the author considers as promoting or obstructing the passage of water from the intestines into the blood will here suffice. It is promoted by (1) the comparatively greater density of the blood; (2) its motion; (3) its alkalinity. When any of these conditions are diminished, the assimilation of water is retarded, and any excess remains inconveniently in the intestinal canal for longer than usual. Hence, water is not easily absorbed by anæmic (hydræmic) persons; also in cases of cardiac disease ("it is a hint sometimes practically valuable not to overburden with slops the stomach of cardiac invalids") and in impediments to the motion of the blood from the lungs (*e. g.* in pulmonary emphysema). In most cases of dyspepsia, finally, there is a less difference than normal between the alkalinity of the blood and the acidity of the stomach, causing a delay in the absorption of its aqueous contents.

On the *treatment* of indigestion as based on the article of food the digestion of which is most prominently deficient, our author says:

I do not think that we profit much from those off-hand advisers who suppose they accomplish everything by forbidding the use of the sort of food which produces the symptoms. Neither in the digestion of vegetable, animal, oleaginous, or watery articles of diet does this restore health. On the contrary, ... an actual state of disease may arise from persistence in the remedy.

A short repose for a time, and abstinence from an unnecessary excess in the undigested dishes, is doubtless wise. But that abstinence must not be complete or final. What the patient wants, when he complains that he can not eat so-and-so, is not to have "don't" said to him—his stomach has said so already—but to be enabled to eat it like other people.

The temporary repose may be accomplished often by a change in the mode of preparation of the articles which cause most inconvenience, often by the substitution of something else, not so agreeable perhaps or so common, but which will not be objected to for a time.

The following details may furnish examples and limits:

In starch or sugar indigestion.—The use of *sugar* in such quantity as to cause a sweet taste may be left off. For ordinary *bread* may be substituted biscuit, toast, or Stevens' aerated bread. . . . Bakers' bread is usually easier of digestion than home-made. *Potatoes* may be finely mashed and mixed with meat gravy. . . . From green *vegetables* possible of digestion by weak stomachs must be carefully excepted peas,

beans, and, in short, all the papilionaceous plants usually eaten green. They are famous for producing flatulence. Etc. . . .

There is an advantage in not mixing too much the animal and vegetable food. In a weak stomach they interfere with one another's digestion. A light luncheon of bread and butter, rice pudding, fruit, and vegetables with a little vinegar, can often be borne without inconvenience, which with the addition of meat would have caused flatulence. The dinner after this may be restricted to meat without injury.

The author recommends, however, the addition of a certain quantity of oleaginous matter to starchy articles of diet.

In indigestion of animal food, it will be found to be generally the form rather than the chemical constitution of the aliment against which the stomach rebels.

Observe the preparation of food as arranged by nature for the delicate stomachs of the new-born. It is completely fluid; the various elements are intimately mixed together, and are further aided in their solution by the lactic acid into which it decomposes. *Milk* is not only a type, but is also itself the most perfect food for extreme weakness. I have never yet met with a stomach which could not bear it either made into whey, or prevented from coagulating by the admixture of lime-water. This fluid meat will pass through the stomach unaltered, the gastric juice will trickle through the pylorus at its leisure after it, and with the intestinal juice will digest the casein in the intestines. . . .

Next to milk, the most digestible form of animal food is properly-made *beef tea*.* . . .

Good *soup* is that which is made most like the above-described beef tea, and is a highly digestible article; bad soup, that which least resembles it, and is to be avoided as poison. Next to good soup in digestibility comes sweet-bread.

The author commends roasting as a scientific and wholesome process, is only conditionally in favor of rapid boiling, and condemns slow boiling entirely, as far as the meat itself is concerned. The reader will find his "*ladder of meat diet for invalids*" useful:

Whey,
Milk and lime-water,
Milk and water,
Plain milk,
Milky rice pudding,
Beef tea,
Plain mutton broth,
Scotch broth,
Turtle soup,
Sweet bread or tripe,
Boiled partridge,
Boiled chicken,
Boiled lamb's head and brains,
Mutton chop,
Roast joint of mutton.

* In the preparation of beef tea, Dr. C. directs half a pound of beef to every pint of tea, the beef to be first soaked in one-third of the water cold, then to be boiled in the remainder, next to be dried, pounded in a mortar, and minced, and finally to be mixed with the two liquids obtained from soaking and boiling.

The use of pepsine is especially indicated in the indigestion of flesh food. If it has caused much disappointment since its introduction to general use, it is because it has been given in unsuitable cases. The cases in which it is really useful are those where a progressive anæmia is accompanied by an inability to digest albuminous food. This inability is exhibited by weight and oppression, or even vomiting, after meals of such diet; by the passage of loose fetid stools, containing remnants of the recent meal; and by loss of appetite and nausea. This state of things is often owing to an excessive secretion in the upper part of the alimentary canal of alkaline mucus. The author knows no remedy which more readily, obviously, and directly *does what it can* toward checking such a state than pepsine. It acts immediately and surely.

In the indigestion of *fat* a purpose similar to that of pepsine is performed by pancreatine.

The indigestion of *water* as a consequence of anæmia is cured by iron; where it results from heart disease or emphysema, it indicates a mercurial purgative.

Speaking of the treatment as based on pathological conditions, the author remarks that there is a general deficiency of the vital powers apparent in each form of indigestion from whatever cause arising. Therefore giving tonics is the prime therapeutical aim. Though sometimes it will be necessary to relieve temporarily certain prominent symptoms first, *without tonics no cure is effected.*

His favorite tonic is quinine in two grain doses in solution, to which he usually adds from 1-24th to 1-20th of a grain of hydrochlorate of strychnia. The former astringes and tones the mucous membrane of the mouth, œsophagus, and stomach, restrains the secretion of mucus, and makes the special secretions more active.

Strychnia relieves flatulence, and that feeling of sinking when the stomach is empty which arises from a sluggish state of the involuntary muscular fibres; and in cases of constipation reinforces the expulsive action of the peristaltic fibres on the mass of feces. An over-sensitive nervous system contra-indicates its use.

We can not follow our author, as closely as we have done thus far, in his remarks on those removable causes of indigestion involved in *habits of social life;* it will be enough to mention

these causes as our author treats of them, viz.: eating too little—eating too much—sedentary habits—tight lacing—compression of the epigastrium by cobblers—sexual excess—solitude—intellectual exertion—want of employment—abuse of purgatives—abuse of alcohol—tobacco—tea—opium.

All the habits in this chapter instanced as causes of indigestion are voluntary and capable of being changed. The cure, therefore, of the indigestion lies first and foremost in that change. It must be made a *sina qua non* of the treatment by every honest practitioner. In aid of that I have given a few hints in passing, but let it be understood that these expedients are to be only temporary; the effect is efficiently to be removed only by removing the cause.

We will repeat a few of these "hints." Under the head of over-eating we find the following remark:

It very often excites the astonishment of these patients after having it explained to them that their danger lies in overeating, to be told to increase the number of their meals. Yet such is in most instances the best way of meeting the case. Small quantities frequently taken are the best device for introducing a full supply of nutriment without overloading the alimentary canal. During the day, four hours is the longest time that an invalid should be allowed to pass without eating something; and for some two hours is a sufficient interval.

The abuse of purgatives is spoken of thus:

There is no habit so pernicious to the gastric digestion as systematically taking purgative drugs. And there is none more common. . . .

It is the increase of sensitiveness which does the harm; for shortly this sensitiveness, commencing probably in the intestines, spreads to the stomach, and the presence of food there gives pain, and can not be borne for the time requisite to normal digestion. The food being undigested, costiveness results; an increased demand for purgatives is made; sometimes even a medical man is induced to order them or to sanction them, and the difficulty of breaking the habit becomes really formidable.

This difficulty the author meets by leaving off purgatives gradually; either by substituting moderate and diminishing doses of aloes and myrrh in pills, or by recommending small cold water enemata.

Here is a suggestion to assist a person in leaving off the habitual abuse of alcohol:

When a patient is persuaded to give up dram-drinking, he often has such a dreadful depression of spirits that his resolution is apt to give way, though he is convinced he is acting right. And sometimes he may have a kind of delirium tremens from the sudden shock, before he can get into the temperate habit of taking stimulants only at dinner, or of giving them up altogether, according to the nature of the case. Still it is best

to enforce the absolute rule of no alcohol between meals, and to supply its place temporarily by an ether and ammonia draught, then by ammonia, either alone or with a bitter, and then to stop it altogether.

The succeeding chapters treat of the various symptoms of dyspeptic ailments. But we must cease to follow our author, for we feel that we can not do him jnstice without reproducing the entire work, and have already made our review long enough to express our high estimate of Dr. CHAMBERS' book. Our extracts will have sufficiently demonstrated that, although the style is not always elegant, it is inviting to the reader by virtue of the enthusiasm and life the author imparts to his teachings; it is simple and clear, moreover, and free from studied points of diction. The author's large experience and acute observation are apparent throughout; and it is not a matter of surprise, therefore, that the book contains many, very many practical remarks upon subjects not strictly coming within the definition of tne title-page. We can not refrain from presenting our readers one of these side-dishes: an opinion on the too frequent use of mercurials (p. 120).

There is a curious superstition about the use of mercurials. They are supposed to make the alvine excretion normal, though the only visible result is its becoming more abnormal with each dose. They are supposed to do good by "acting on the liver," whether the liver is acting too little or too much. They are supposed to "act on the liver," though it has been shown by Dr. Scott's experiments (Beale's Archives, vol. i, p. 209) that the quantity of bile is not increased, nay, is rather diminished when mercury is taken. All that the metal can be really seen to effect on the hepatic function is a poisoning of the bile, so as to prevent its absorption by the ilia, and to cause the secretion to be rejected in a liquid form *per anum*, and that is a very doubtful advantage to most invalids.

G. B.

LESSONS IN PHYSICAL DIAGNOSIS. By ALFRED L. LOOMIS, Professor of the Institutes and Practice of Medicine in the Medical Department of the University of New York; Physician to Bellevue and Charity Hospitals, etc. New York: Robert M. DeWitt. 1868. 8vo., pp. 155.

[For sale by the St. Louis Book and News Co.]

We can heartily say God speed to any undertaking that is calculated to advance the education of the profession in this all-important branch of diagnosis. It is somewhat remarkable, considering the constantly increasing number of really valuable books on the subject of physical diagnosis, how sadly deficient a large

portion of the profession is in the practical application of the principles of physical exploration. A few still openly declare its impracticability, a greater number go through the motions for appearance sake, while many arrive at false conclusions from an exclusive reliance thereon.

This little book of Prof. LOOMIS', without, as he says, any attempt at originality, accomplishes very pleasingly its object, which is to give a plain and comprehensive compend of the researches of many inquirers. It is arranged in a series of lessons, comprising the various methods of physical diagnosis: viz., inspection, palpation, mensuration, succussion, percussion, and auscultation, as applied to the exploration of the thoracic and abdominal organs.

In reference to inspection he advises that "it should not be lightly regarded," as it too often is, for it often furnishes much information respecting the condition of the thoracic and abdominal viscera. Though we very rarely derive positive evidence of disease from this method alone, its importance increases in those cases where other physical signs are uncertain. In a decided or long standing case of emphysema of the lungs, inspection is quite sufficient for a diagnosis to an experienced eye. We are glad to see he adopts the term "vesiculo-tympanitic resonance" (introduced by Prof. A. FLINT) to denote a resonance in which we have both the tympanitic and vesicular qualities. We feel satisfied from a brief examination of this compend that it will be a very instructive book for students, and a very convenient means to the busy practitioner of refreshing his memory.

P. G. R.

THE NEUROSES OF THE SKIN: their Pathology and Treatment. By HOWARD F. DAMON, A.M., M.D., etc.. etc. Philadelphia: J. B. Lippincott & Co. 1868. pp. viii, 111. Price, $2 00.

[For sale by KEITH & WOODS, Booksellers, St. Louis.]

Dr. DAMON proposes a very simple classification of skin diseases, which he defends in the preface of the little work before us by pretty forcible arguments. It is this: (1) Neuroses of the Skin; (2) Functional Diseases of the Cutaneous Glands; (3) Inflammations of the Skin; (4) Structural Lesions of the Skin. The first of these classes is the subject of the present treatise. From the tenor of the preface we are led to surmise that it is not

the author's intention to let this comparatively small division of the cutaneous affections be the only one to which he devotes his pen; at any rate, we should be glad to see the remaining three classes treated in a similar way; the union of the four would be a very practical and eminently useful textbook on skin diseases, provided the publishers would issue a collected edition of less typographical luxury; for in the elegant dress of the "Neuroses," such a work would exceed the means of the student.

However that may be,—we are well satisfied with the work now presented to us, and find small reason to criticize. Dr. DAMON clothes his information in exceedingly simple language; the frequent repetition of very short sentences makes the style as clear and unambiguous as possible, albeit with the nearly total loss of elegance. An unattractive abruptness in diction is, in reality, the only fault we have to find with some parts of the book.

Neuroses of the skin are of course of two kinds: hyperæsthesia and anæsthesia. Under the former head are comprised four distinct diseases: dermalgia, prurigo, urticaria, and zoster. Urticaria is here making its *début* among the neuroses, we believe; we do not remember to have seen this classification before, but must admit that it is perfectly reasonable.

Under the name of zoster, the author includes not alone the commonly recognized species of "herpes zoster," but also "herpes facialis" and "præputialis," as first proposed by v. BÆRENSPRUNG, and in opposition to HEBRA's views, who excludes the two latter species from the designation "zoster." He enters minutely into the objections of the latter against BÆRENSPRUNG's theory that h. labialis, for instance, is a true, but incomplete, zoster facialis, and that the development of the vesicles is, in all three of them, due to some morbid condition of the respective nerve,—and attempts to refute those objections by arguments which we can not but acknowledge have great force. He does so, be it remembered however, with all due respect to HEBRA, of whom he speaks as having "opened a new era in dermatology," and whose writings he quotes extensively in order to give the reader an opportunity "to see for himself . . . to whom we are so largely indebted for the increased attention which is now daily being given to" cutaneous diseases.

The article on anæsthesia brings to our mind the clinical

lectures of our honored teacher in 1859, Prof. JAKSCH of Prague, who often demonstrated to his class the very great though mostly unnoticed frequency of "cutaneous anodynia," both as a symptom of certain diseases, and also seemingly unconnected with the affection for which the patient was receiving hospital treatment. Unfortunately, the students of Prof. JAKSCH had then been waiting some time for an essay on the subject repeatedly promised by him, and they are waiting to this day. "Cutaneous anodynia" was the rage, in those days, in the first medical clinic of the General Hospital at Prague, and more attention or more study has probably never been given to the affection than by the distinguished professor. Remembering the observations we there had the opportunity to make, we may not look upon Dr. DAMON'S chapter on anæsthesia as exhaustive, though it is—let us not be misunderstood—quite as full as is practically necessary.

From his remarks upon treatment we gather that the author has a very high opinion of the bromides of potassium and ammonium.

A few pages at the close of the volume are devoted to brief histories of 26 selected cases of zoster.

Our recommendation of Dr. DAMON'S book is without qualification or reserve. G. B.

ON DISEASES OF THE SKIN: a System of Cutaneous Medicine. By ERASMUS WILSON, F.R.S. 7th American, from the 6th and revised English edition. With 20 plates and illustrations on wood. Philad.: Henry C. Lea. 1868. 8vo., pp. 808. Price, text and plates bound in one volume, $10 00.

[For sale by the St. Louis Book and News Co.]

Mr. WILSON'S work has been before the public in its several editions since 1852; it is too long and widely known to require extended comment. We believe that it is now,* as it has long been regarded, the best comprehensive treatise on the subject in our language, and we are sorry that it is so. It has certainly been the best work in its time, and will ever be counted among the classical literature of medicine; but notwithstanding the careful revision and evident improvement of the present edition, it is lagging behind the advancing science of the day. There is

* We are not acquainted with NAYLER'S work on skin diseases.

much room for improvement. We can see no excuse for the persistent adherence to superannuated views,—to views which can in no way be made to conform to the established facts of modern science. Let the reader compare Mr. WILSON's chapter on Favus with the corresponding portion of BENNETT's "Clinical Lectures;" let him consider at the same time that BENNETT himself, though denying it (l. c., p. 123), is an advocate of the doctrine of spontaneous generation, as is shown by a late lecture delivered before the Royal College of Surgeons, Edinburgh (*Edinburgh Medical Journal*, March, 1868),—and he will agree with us, that the work before us is no longer a faithful exponent of cutaneous pathology. Dr. TILBURY FOX's elaborate argument was scarcely needed to refute the doctrine that vegetable tissue (the fungus of favus) can result from "a modification of the elements of the epidermis."—In all practical points, relating to the observation of the external characters of the disease and to treatment, we are willing to allow that the work before us still occupies its place among the chefs-d'œuvre of all nations.

In the present edition, the publisher has added the plates illustrating the author's work on constitutional syphilis and syphilitic eruptions, thus increasing the number of plates by four.

G. B.

REPORT ON EPIDEMIC CHOLERA AND YELLOW FEVER in the Army of the United States, during the year 1867. (Circular No. I, War Department, Surgeon-General's Office. Washington, June 10, 1868.) 4to., pp. xxxix, 156.

Reports of this class are extremely valuable in several respects. On the one hand they stimulate the scientific life of a body of salaried men who have not the incentive to exertion which acts upon the civil practitioner; while, on the other, military surgeons are comparatively unbiased by those interests that must occasionally influence civil boards of health, who are liable to feel in their pockets the disapprobation of the public.

The first thirty-nine pages consist of a digest, by Dr. J. J. WOODWARD, of the information on the subjects indicated in the title, which has been regularly reported or specially elicited at the Surgeon-General's office. The remaining one hundred and fifty-six pages contain extracts from the official reports of medical officers, with details of treatment, descriptions of localities, etc.

Dr. WOODWARD's concisely expressed digest is well prepared with reference to considerations of prevention by quarantine and sanitary measures: but the subject of therapeutics is not passed over, although he seems to recognize the truth of the old proverb. "an ounce of prevention is worth a pound of cure," with these diseases for which no specific has yet been discovered.

In order to prevent disease intelligently, we must investigate its origin and mode of propagation. In 1866 there were 1,269 deaths from cholera in the army; in 1867 there were 230, and an examination of the circumstances "confirms the views in favor of quarantine formed during 1866, and especially confirms the opinions formed with regard to the danger of distributing recruits or other bodies of troops from an infected point to other garrisons."

Cholera, which had continued in New Orleans from the summer of 1866 until the ensuing January, reappeared there in June. In the same month, the first fatal cases in the army occurred in white troops at Vicksburg, and in colored troops at Fort Harker (Kansas), and in the expeditions from that point to New Mexico. The communication of the disease by expeditions from Fort Harker to posts on the Arkansas river route and the Smoky Hill Fork route is most strikingly shown.

The majority of the fatal cases occurred in July and August at the various stations in Kansas, and in the troops starting from them.

At the forts in New York harbor there were twenty-two fatal cases in August and September. The disease was introduced by a detachment of recruits from St. Louis, where cholera was prevailing.

As late as December we find the disease at New Orleans and Galveston among recruits from New York, and in this connection only is the treatment of cholera mentioned in the digest in the following somewhat humorous passage: "The extreme mildness of the cases among these recruits can not escape attention; there were among them, in all, sixty-three cases, and but nine deaths. This happy result, which is attributed by the medical officer at Galveston to the use of tannin in large doses, was observed also at Hempstead, where reliance appears to have been placed on camphor and opium pills; and at Onion Creek, where calomel was employed in large doses."

The examination of the reports on the epidemic of yellow fever, indicate in like manner the quarter where preventive measures should be applied.

It is pretty clearly shown that epidemic yellow fever in the United States is of foreign origin, having been introduced in 1867 from two points, Vera Cruz, Mexico, and Havana, Cuba. Forty percent of the cases of Mexican origin died, while not quite twenty-eight and a half percent of those of Cuban origin were fatal.

From Vera Cruz it was brought by a vessel in May to Indianola, Texas, attacking civilians first, and reaching the troops in June. A case was brought from Indianola to Galveston, June 26th. At Brownsville, on the Rio Grande, it appears to have been introduced about October 1st by Austrians recently belonging to MAXIMILIAN'S army. At New Orleans, so far as can be learned, the first case was a man who had been at work unloading a vessel from Havana. He was taken sick June 5th, and died on the 10th. The disease became epidemic in August, and continued till December, going up the Mississippi as far as Memphis. Over three thousand deaths were reported among the citizens of New Orleans. The fever reached Mobile Bay in August.

At Key West it was directly imported from Havana by the Spanish frigate Francisco de Assiz, July 31st, and it can be pretty clearly traced from Havana directly to one or two other points in Florida.

The total number of deaths throughout the army from this epidemic is 453; of which 428 were in the white troops and 25 in the colored.

An interesting point is thus stated: "At Indianola the greatest number of cases and deaths occurred during July; at Galveston, during September; at Victoria, Houston, and Hempstead, during October; at New Orleans, during September; at Vicksburg, during October and November; at Fort Morgan, Mobile Harbor, during August; at Mobile, during October; at Key West, during September and October; at Fort Jefferson, during September. Such facts strongly favor the belief that the period of maximum intensity corresponds to the date of the introduction of the disease rather than to any supposed controlling influence of season or climate."

With regard to the comparative mortality of the white and colored troops, it is found that of the former when attacked with cholera 1 case in 2.28 was fatal, while with the colored 1 in 2.05. In other words, while the proportion of deaths to recoveries in both divisions of the army was very high, it was about 5 percent higher in the colored.

When attacked with yellow fever, however, the mortality of white patients was 1 in 3.15 cases, or 31.7 percent, and that of colored patients was 1 in 6.84 cases, or 14.6 percent, being 17.1 percent lower than with the white.

In drawing conclusions from these statistics, it must be remembered that the large class of men of mixed negro and white race, who are generally supposed to be less hardy than either race pure, are excluded from the white troops and admitted into the colored, to the probably serious lowering of their standard of vitality, unless perhaps an admixture of negro blood be a safeguard against yellow fever.

The last few pages of Dr. WOODWARD'S report give a sketch of the epidemics of yellow fever in the Southwestern States in the war of the rebellion, during the whole of which period the strict blockade secured an immunity to the Department of the Gulf. It prevailed at Key West, Hilton Head, Fort Jefferson, Charleston, and Wilmington, N. C., where its source and mode of introduction by blockade runners, etc., was easily ascertained. In 1864 Key West was again visited, and the disease became epidemic among the troops stationed at Newbern, N. C., at which place its origin was hard to discover. Especial interest attached to the subject on account of the assertion that the fever had been introduced by infected clothing from the West Indies, sent via Halifax, under the auspices of Dr. BLACKBURN. On this subject Dr. HAND has made a special report, dated April 1, 1866, in which he recounts his inquiries on the subject, and concludes, that although the infected clothing reached Washington, D. C., and was sold there, no evidence exists to render it probable that any of it reached Newbern. This source of importation excluded, and the rigid nature of the blockade enabling Dr. HAND to make the statement that no vessel was admitted from an infected port, it must be supposed either that the disease originated at Newbern, or that it was brought overland from Charleston, S. C., where it became epidemic a month earlier than the first case at Newbern.

The fever appeared in Charleston, July 27th, and in Newbern, September 1st, but no actual communication, by refugees or otherwise, seems to have been proved.

The month of the greatest activity of the disease among the white troops in North Carolina was October, in which there were 493 cases and 200 deaths.

The treatment regarded best was a cathartic dose of calomel, followed by repeated small doses of the same medicine; not, however, pushed to ptyalism.

Referring our readers to the circular itself for much valuable detail, we will close with the following quotation from Dr. WOODWARD: "It is to be regretted that the experience of the army throws no more satisfactory light on the treatment of the disease; but it must be admitted that it is most instructive with regard to measures of prevention. Besides those general hygienic precautions, which are so important in the prevention or mitigation of all epidemic diseases, two simple and effective measures would appear to be specially indicated by the experience of the army during the war and subsequently. The first is quarantine, as a means of preventing the introduction of the disease; the second is the prompt movement of the command to some rural site on the appearance of the fever among the citizens of the town at which it is stationed, or even after the disease has appeared among the men of the command itself."

C. E. B.

DENTAL MATERIA MEDICA. Compiled by JAMES W. WHITE. Philadelphia: Sam. S. White. 1868. 12mo., pp. 108.

The cover of this book (beautifully printed by Lippincott) encloses, besides the said 108 pages of compilation, no less than 30 pages of advertisements of the dental depot of Samuel S. White, the publisher of the work. The whole book, however, appears to us like an elegant advertisement. It contains a few remarks on a great many subjects. These subjects are strung together according to a fashion that may be useful and intelligible to the dental practitioner, but is hardly so to us. The immediate sequence of "Spirit of Ammonia," "Sandarac Varnish," "Mercury," "Oil of Gaultheria," "Soap Bark," etc., conveys to us no idea of classification. The remarks under each head seem judicious and practical, but not uniform, and often deficient.

Carbolic acid is in most places so named, in another place it is called *phenic acid* (under the head of "Phenate of Soda," p. 58) without a word of intimation, and probably without a knowledge, of the synonymous character of the two words.

We are surprised, therefore, that Prof. McQUILLEN recommends the book (*Dental Cosmos*, May, 1868) as a "valuable work of reference." Our opinion of the great majority of dentists has always been better; we believed that just about the kind and amount of knowledge contained in this Dental Materia Medica was the mental property of every good practitioner of dentistry. A book of *reference* should contain details, which are *not*, as the preface says they are, *easily obtained elsewhere.*

Under the circumstances, we do not know whether to recommend the book or not.

Extracts from Current Medical Literature.

PRACTICAL MEDICINE.

7. *A Modification of the Clinical Thermometer.* Presented to the Medical Society of the Hospitals of Paris by M. HÉRARD.

[*L'Union Medicale*. 1868.]

At this time, when thermometrical researches are in vogue, I thought that the Society would receive with interest the modifications of the thermometer, used as a means of ascertaining the temperature of the body in disease. The instrument is constructed by MM. ALVERGNIOT FRÉRES, under the instructions of M. NIEDERKOM, a pupil attached to my service.

The instrument which I present contains mercury, with calibre equally and carefully prepared, with a fractional scale, and graduated on glass by degrees and tenths of degrees. It is "*maximum in all directions, with a permanent bubble of air*," not requiring any manipulations to prepare a maximum, nor any calculation for the reading. The constructor has broken the column of mercury by the introduction of a very fine bubble of air, above which a fraction of the column remains, serving as an index, and occupying about ten divisions. The instrument is about the size of an ordinary lead pencil: it is about six inches in length, of which about three are occupied by the reservoir. The reservoir alone is blown; the body is plain except the capillary tube, which passes longitudinally through its centre, giving to the instrument all the solidity the material will admit of.

The inferior half of the instrument is not graduated. The superior half is graduated between 34° and 42° (Cent.). This scale suffices for ordinary cases, but it can be made on the same system to meet any requirements.

When the index is below the temperature we think we ought to obtain, there is nothing to do but put the instrument in position; if, on the contrary, a preceding observation has shown the

index, we must preliminarily arrange the index below the expected temperature, which is accomplished by slight shakings of the instrument.

After two or three minutes, when the equilibrium of temperature has become established, withdraw it, and the reading is very easily accomplished. "*The index remaining fixed by capillary adhesion at the highest point of the course through which it has just passed.*" The instrument has been so graduated that in order to appreciate exactly the temperature, it is only necessary to read the division just above the level of the index. The scale having only been constructed for ordinary diseases it is not very long. The divisions have consequently been given in tenths so as not to make the size inconvenient. By employing mercury, the exact calibre of the tube, and graduation on glass, the skillful operator has been enabled to produce very precise instruments, the sensibility of which is due to the form, to the small capacity of the reservoir, and above all, to the extreme capillarity of the tube. For more than two months M. NIEDERKOM has used it daily under my personal observation, and it performs with perfect regularity. In addition to its above-mentioned qualities, this advantage can be claimed for it over the ordinary instrument, viz., "*that the reading is no longer made on the patient, and can be deferred.*" Thus it is always exact and convenient, despite its extreme capillarity, because we can always seek the most favorable spot for the reading where the light is strongest.

With the instrument in use to-day, we meet with inevitable causes for cooling the instrument; for we must either leave a portion of the body of the instrument exposed to the air in maintaining an opening between the skin and clothing during the entire observation, or place the reservoir in the axilla, the entire body applied along the side by means of the arm, and carefully cover the patient. This procedure gives a just equilibrium, but at the moment when we wish to ascertain the temperature, we uncover the patient in order to bring the body in sight, and then we expose ourselves to the same causes of error as before. These objections disappear in employing this method of the maximum thermometer; for once the equilibrium is registered, it can not change, grace to the index. Thus disappear also, in great part at least, the reasons given generally for preferring the rectal temperature in hospital practice.

To place the instrument in position and withdraw it is a manœuvre so simple, that the patient himself or any one of his family can perform it without any chance of error. Then it can be applied without any trouble on the most modest lady without shocking her delicacy.

[*S. H. Frazer.*]

8. *Case illustrating the Nature of Epilepsy.* By Prof. L. MAROWSKY, of Charcow, Russia.

[*Deutsches Archiv f. klin Med.*, vol. III., p. 615. 1867.]

This case is reported as a farther contribution to the researches of Dr. NOTHNAGEL (cf. p. 67 of this volume) concerning the origin of the epileptic attack, and the author is of opinion that it proves beyond controversy that many, if not all, forms of epilepsy are owing to a spastic contraction of the cerebral arteries; in other words that epilepsy is a *vasomotor neurosis of the brain.* The arterial spasm may be induced by various causes, either directly or by reflex action; hence the multifarious forms and modifications of the disease. Whenever these causes are known, or discovered post mortem, we speak of "symptomatic epilepsy;" —when they remain unknown, we call the disease "essential" (idiopathic) epilepsy.

The case is that of a cadet, æt. 16, with a moderate phlegmonous inflammation extending from the left ala of the nose to the middle of the left cheek. The young man was naturally very excitable, nervous, but of strong build and in good condition. The tumor was very painful, at the circumference hard and red; the centre was dark-red, almost livid, and showed fluctuation so distinct as to indicate the propriety of opening the abscess. This little operation was performed immediately, the patient standing. A small, but sufficient, opening had scarcely been made with a sharp lancet, when the skin immediately around the incision, which had been dark-red, became perfectly white. This white margin rapidly extended farther and farther, all of the red inflamed surface became as white as chalk, the patient became restless, his pupils dilated and his countenance grew pale; he fell, lost consciousness, and, after a slight tetanic contraction, was attacked with clonic convulsions of the face, hands, and feet, and foaming at the mouth. After a half or at most one minute, the convulsions ceased, the patient became quiet, his face reddened, the pulse which had been slow, contracted and tense,

became frequent and easily compressible, the skin moist, and after five or ten minutes the patient awoke, remembered nothing of the accident, and for the rest of the day remained depressed, feeble, and incapable of mental exertion.

The author supposes that he had caused, by the incision, a reflex spasm of the cerebral arteries, leading to general anæmia of the organ, which then caused convulsions and loss of consciousness. The tonic contraction of the cerebral vessels must have been general, affecting the base as well as the periphery, because loss of consciousness occurred simultaneously with general tonic and clonic convulsions.

The patient has been under observation for two years since this occurrence, but never had a second attack; nor had he ever suffered from an epileptic attack previously, though he had always been very irritable as a boy.

9. *The Pathology of Paralysis with Muscular Degeneration* (Paralysie myosclérotique). By Dr. DUCHENNE, of Boulogne. Communicated to the Pathological Society of London by Mr. LOCKHART CLARKE, F.R.S.

[*British Medical Journal*, Dec. 14, 1867.]

The clinical facts which serve as a basis for studying the symptomatology of the disease show that paralysis with degeneration (*sclérosie*) of muscles, or with apparent hypertrophy of muscles, is marked, in general, by three distinct periods or stages—a stage of paralysis, a stage of hypertrophy, and a stage in which the paralysis becomes general.

1. The first stage is manifested either at the time when the children should begin to walk, or some years after they have begun. In the former case, although the conformation of these children be quite normal, and although, while lying down or in the arms of their mothers or their nurses, they appear to possess their natural share of motility, yet, when they arrive at the age of twelve or fourteen months, if an attempt be made to stand them on their legs, they immediately fall down. It is not until they have attained the age of two or three years, that they are able to stand upright or to walk, and even then they require support. In the latter case, after these children have walked well for several years, it is remarked that, either spontaneously or subsequently to some convulsions, they are soon fatigued by standing or walking; that, without some support, they find these operations become more and more difficult and painful, and that they are subject to frequent falls. Whatever may have been the age at which the malady first made its appearance, it is soon observed that, in order to maintain their equilibrium while standing or walking, all these children bend themselves very much backward and keep their legs very much apart; that at each step they incline laterally towards the leg

which rests on the ground—a movement which produces a characteristic balancing of the body during progression.

2. The second stage is announced, in general, some months, and even two years, after the beginning of the muscular weakness, by a progressive swelling or enlargement of the gastrocnemii, then of the glutei and the lumbar muscles of the spine. This apparent hypertrophy occurs sometimes in nearly all the muscles that have been affected by paralysis; but, in general, it does not, and it may even be limited to a very small number of the muscles. The extension, to a greater or less extent, of the apparent hypertrophy of the muscles may constitute different varieties of this kind of paralysis. The hypertrophied muscles are firm and elastic; they become very hard while they contract, and show all the relief or projection which properly belongs to their contracted state; they then appear to form a hernial protrusion through the integument, which is very thin. Moreover, their great size shows off the apparent smallness and delicacy of the joints at the knee, ankle, etc.

In one case that came under my observation, both the weakness and the muscular hypertrophy appear to have shown themselves simultaneously. According to the information given by the mother, the child was very large at its birth. But this information is insufficient; we ought to know whether the great size of the body and of the limbs was or was not due rather to the abundance of subcutaneous adipose tissue than to the volume of the muscular masses.

The increase in the size of the muscles does not appear to add to their weakness. This is so far from being the case, that the muscles of the calves, which are always the most hypertrophied, are those which are found to have relatively the greatest power.

The morbid phenomena above described may remain in the same state for years—sometimes until a tolerably advanced period of youth.

A new stage of the disease, and the last one, is manifested by a gradual increase in the severity, and a more general extension, of the paralysis. The young patients can no longer stand upright; they always remain in the recumbent posture without any power to change the position in which they may be placed; and the upper extremities, if they have not hitherto been affected, soon lose all their movements. With this aggravation of the paralysis, hypertrophied muscles may sometimes be seen to melt, as it were, away, and then all the limbs and the trunk become atrophied *en masse*. Although in this stage the patients are reduced to a state of great weakness, they may nevertheless live for a tolerably long time. They are cut off by some intercurrent disease.

Mr. CLARKE adds:

Dr. DUCHENNE informs me that he has been studying this disease for the last eleven years, and that he is now preparing a small work on the subject. Several cases have been recorded on the continent, and post mortem examinations have been made. EULENBURG and COHNHEIM examined the body of a child which died of this disease at the age of thirteen. They found the electro-muscular contractility everywhere in-

tact. Nothing abnormal was discovered in the nervous and vascular systems. To the touch, the muscles of the lower limbs gave the sensation of a doughy and inelastic mass. They were marked with stripes or striæ of a yellow or yellowish white appearance. On section, they shone with a kind of greasy light. At certain points they could not be distinguished by the naked eye from the subcutaneous adipose tissue. The muscles of the upper extremities presented a similar kind of structure; but they were much atrophied, as were also those of the trunk. Under the microscope, those especially of the lower extremities seemed to be filled with adipose tissue; but the muscular tissue itself was not altered. GRIESINGER and BILLROTH had already observed a similar state in the living subject. It is rare, however, to find any oily particles in them. (*Verhandl. d. Berliner Med. Ges.*, I, 101-205.) HELLER, who examined two brothers that died of this disease, seems to consider it as a kind of fatty degeneration, for he calls it lipomatous. (*Deutsches Archiv f. Klin. Med.*, I, 616-627.) SEIDEL also records three cases belonging to the same family, under the term of "lipomatous atrophy of the muscles, or muscular atrophy."

(Since the date of this communication the article promised by DUCHENNE has been published in the *Archives générales de Médecine*, Jan.–May, 1868.)

10. *A Cure for Headache.* By GEORGE KENNION, M.D., F.R.C.P., Harrogate.

[*British Medical Journal*, June 13, 1868.]

The remedy, as I have already observed, is simple; it is the bisulphide of carbon in solution. Its mode of application is no less simple. A small quantity of the solution (about two drachms) is poured upon cotton-wool, with which a small, wide-mouthed, glass-stoppered bottle is half-filled. This, of course, absorbs the fluid; and, when the remedy has to be used, the mouth of the bottle is to be applied closely (so that none of the volatile vapor may escape) to the temple, or behind the ear, or as near as possible to the seat of pain; and so held for from three to five or six minutes. After it has been applied for a minute or two, a sensation is felt as if several leeches were biting the part; and, after the lapse of two, three, or four minutes more, the smarting and pain become rather severe, but subside almost immediately after the removal of the bottle. It is very seldom that any redness of the skin is produced. The effect of this application, as I have said, is generally immediate. It may be applied, if necessary, three or four times in the day.

The class of headaches in which this remedy is chiefly useful, is that which may be grouped under the wide term of "nervous." Thus neuralgic headache, periodic headache, hysterical headache, and even many kinds of dyspeptic headache, are almost invariably relieved by it; and although the relief of a symptom is a very different affair, of course, from the removal of its cause, yet no one who has witnessed (and who of us

has not seen?) the agony and distress occasioned by severe and repeated headache, but must rejoice in having the power of affording relief in so prompt and simple a manner.

11. *Acute Laryngitis treated by Injections into the Larynx and Trachea.* By W. H. SHERWOOD, M.D., Unionville, Ohio.

[*New York Medical Journal*, June, 1868.]

As no case treated in this manner has yet been made public, I will describe the present one as minutely as possible, hoping that success in this instance may lead to a new form of treatment of diseases of the air passages.

The patient, Mr. H. W., is unmarried, æt. 26, five feet eight inches in height, of slender stature, light brown hair, blue eyes, and fair complexion; his pulse 110, blue tinge around the gum, scantiness of hair on the chest, finger nails incurvated. I saw him for the first time Feb. 20th, 1868. His head was thrown back, and he was suffering from extreme dyspnœa, and inability to articulate above a whisper, and difficult deglutition. After ascertaining the history of the case I learned he had had several attacks of hæmoptysis, with a cough attended with purulent expectoration. Notwithstanding he was somewhat emaciated, there were no marked hectic symptoms. Over the left subclavian region pectoriloquy was perfectly distinct, with amphoric respiration; his right lung seemed quite free from any tubercular deposit.

Seeing him in this painful condition, and thinking that the ordinary remedies at least were unsatisfactory in their effects, I resolved to employ a method which I had dwelt upon for some time past, namely, to apply an astringent solution directly to the inflamed membrane. On account of the apparent uncertainty of introducing a solution through the rima glottidis, as recommended by BRETONNEAU, TROUSSEAU, and by American surgeons such as HORACE GREEN and J. WARREN, I determined to inject the larynx by piercing the cricothyroid membrane by the point of the hypodermic syringe, which operation I performed after previously rendering the parts insensible by means of rhigolene passed through an atomizer. After passing the longest tube of the hypodermic syringe without difficulty into the larynx, half way between the upper border of the thyroid and the lower edge of the cricoid cartilage, and exactly in the mesial line, my assistant, Dr. M. P. BRAINARD, filled the hypodermic syringe, holding one-fourth of an ounce, with a solution of nitrate of silver containing five grains to the ounce. The tube was then screwed onto the syringe and the solution thrown into the larynx. This produced not so much strangling as is witnessed after the introduction of the sponge by the mouth, and was shortly followed by coughing, with expectoration, and marked relief. I prescribed three drops of veratrum viride, to be taken once in six hours, and ten grains Dover's powder at bed time. Upon seeing him the next day, the dyspnœa and difficulty of deglutition had nearly ceased, and he was quite cheerful. I directed him

to take one tablespoonful of cod-liver oil three times a day, and made an issue under the left clavicle.

I then determined to treat the existing tuberculosis by means of injection. On April 21, 1868, at 2 P. M., assisted by Dr. M. P. BRAINARD, I injected the lungs by piercing the trachea between the cricoid cartilage and the isthmus of the thyroid gland, and injected a solution composed of ten grains of argentum nitras to the ounce. I found that this produced no dyspnœa, but was followed by some cough and expectoration. He was ordered to continue his constitutional remedies as before. When I again saw him, he was somewhat improved, cough less harassing, pulse less frequent, and felt a little stronger; consequently, on April 27, I injected as before, with similar results.

As the patient will continue under my treatment, I will take notes and publish them hereafter; but I consider this sufficient to demonstrate that medicines can be injected into the larynx and lungs through the trachea with impunity. This method saves the uncertainty and danger of inserting a tube or sponge into the rima glottidis, and is simple and painless in its performance. For the treatment of laryngitis in my hands it has proved successful; and its trial in diseases of the air passages is urged.

12. *Syphilitic Ulceration of the Throat treated with Sulphurous Acid.* By H. S. PURDON, M.D., Physician to the Belfast Dispensary for Diseases of the Skin, etc.

[*British Medical Journal*, May 9, 1868.]

Mr. Robert W., æt. 30 years, consulted me on August 17th, 1867, for a hard chancre of a few days' duration, situated at the corona glandis, which I touched with strong nitric acid, and prescribed "black-wash" as a local application, with the green iodide of mercury internally. Under this treatment, he was apparently cured, and I lost sight of him till the following November. I may mention he told me that about four years previously he contracted a chancre, which was quickly followed by a bubo. The medical man he then consulted prescribed "Plummer's pill," which occasioned profuse salivation. I again saw him in November, and found that he was laboring under a syphilitic affection of the throat, both tonsils and part of the pharynx being covered with an ash-colored slough; he experienced great difficulty in swallowing, appetite bad, passed sleepless nights, and was extremely anxious about his present state of health; no cutaneous eruption visible. For upwards of eight weeks various remedies were tried; viz., iodide of potassium, in ten grain doses three times a day, the bichloride and biniodide of mercury, gargles of chlorate of potash and alum, and solution of the nitrate of silver, twenty grains to the ounce, with opium at night to procure sleep. This treatment only checked the spread of the disease, which remained *in statu quo* till the middle of January, when I happened to see recorded in the *Lancet*, for October, 1867, a case, in which a patient of the London Hospital was treated for syphilitic ulceration of the throat by the application of sulphurous acid spray. I thought Mr. W.'s case likely to benefit by the

same treatment, and commenced using the spray to the affected part three times daily on January 25th inst. At first I applied it for a short time only, but, finding that it gave no pain, the end of the instrument was brought nearly in contact with the part affected, and the application of the spray continued for several minutes each time. On Saturday, February 15th, the throat was perfectly well, and there has not been any return of the disease since.

I have at the present time under treatment a gentleman suffering from a syphilitic affection of the tongue, in which I am applying the sulphurous acid spray with the best results.

13. *Treatment of Disease of the Mitral Valve.* By Dr. J. ANDREW. (*St. Bartholomew's Hospital Reports*, vol. III. London. 1867.)

[*Amer. Journal of the Medical Sciences*, July 1868, p. 220.]

In the treatment of mitral incompetence there are three principal indications, to the more or less complete fulfilling of which our success will be proportioned.

1. To diminish, as far as possible, the sum total of the blood in the body; for a heart which is unable to transmit a certain quantity of fluid in a given time may suffer little or no embarrassment when called upon to deal with a smaller quantity only. This is best accomplished by a diet nutritious but restricted, especially in respect of the quantity of fluid which is taken. This restricted diet is further advantageous by diminishing the risk of over-distension of the stomach and the consequent mechanical interference with the cardiac and respiratory movements.

2. To maintain the nutrition of the heart and its muscular power; for by doing so we shall obviate to some extent hypertrophy and dilatation with their attendant evils. The continued use of some preparation of iron—the tinct. ferri perchloridi is, I believe, the best—will be of the most essential service; but if the iron can not be borne, quinine or the mineral acids must be substituted for it.

3. To diminish the frequency and energy of the heart's action. When regurgitation takes place through the mitral orifice, the more numerous and forcible the pulsations of the left ventricle the greater will be the distension of the left auricle and the congestion of the lungs. The patient must religiously avoid all excitement, fatigue, or muscular effort; but the benefits of rest will be greatly increased by the use of digitalis in doses regulated by its effect on the pulse. With proper care it may be employed continuously for long periods without any untoward symptoms being produced by it. A belladonna plaster on the cardiac region sometimes appears useful.

By this line of treatment we may often do a great deal more than merely palliate the symptoms of heart disease produced by mitral incompetence. But if it is to be effective it must be persevered in for months, and even years, and, above all, must not be lightly exchanged for measures intended to relieve such symptoms as dyspnœa and anasarca. There is no other

class of cases in which the temptation to employ means which yield immediate relief is greater, none in which such temporary expedients inflict more permanent harm. If the nutrition of the heart be once impaired, it is too often impossible to redress the injury thus sustained. Of this a sufficient proof is afforded by the numerous cases in which valvular disease exists for many years without causing any serious annoyance, until on the occurrence of some debilitating disease or of profuse hæmorrhage, distressing and fatal symptoms are at once developed.

14. *The Auscultation of the Oesophagus as a Diagnostic Means in its Diseases.* By Dr. W. HAMBURGER, Bohemia.

[*Med. Jahrbücher*, Vienna, xv, Heft 2, 1868.]

The author refers to the obscurity of the diagnosis of œsophageal affections, which he likens to the condition of the diagnosis of thoracic diseases previous to the introduction of physical exploration. The diseases of the œsophagus are so barren of symptoms, our present means for their diagnosis are so insufficient, that the necessity of augmenting these resources is obvious. The sensibility of the œsophagus, excepting its most superior portion, is very small; it is supplied with few sensory nerves and few vessels. It is clear that its abnormities must produce but few external evidences. There are really but *two* symptoms likely to betray the presence of œsophageal diseases; viz., pain and dysphagia,—*i. e.*, altered sensibility or altered function; and even these are little calculated to give much information. Pain is not often present in disease of the œsophagus; even cancer is here frequently painless. The seat of pain, moreover, it is mostly impossible to state with accuracy. And, on the other hand, pain and other abnormal sensations are often referred to the gullet, when the latter is perfectly normal. Difficulty of swallowing is not any more reliable as a diagnostic symptom. Above all, it must be remembered, that in nine cases out of ten, this phenomenon is not a symptom of affections of the œsophagus, but of other more or less distant organs. Of these may be mentioned inflammations of the tonsils, nutritive lesions of the thyroid, retropharyngeal abscess, aneurisms of the aorta, pericardial exudations and cardiac hypertrophy, tubercular infiltrations about the bifurcation of the trachea, etc. Cancer of the lungs and pleura often cause dysphagia. The same symptom is caused by alterations in the nerve centres, by specific irritants of the nervous system (*e. g.*, the hydrophobic virus), etc. On

the other hand, in some organic affections, as dilatation, of the œsophagus, dysphagia may be entirely absent.

The only means left, then, when these symptoms prove unreliable, for the exploration of the œsophagus, is the œsophageal sound. This the author calls, not a two-edged, but a many-edged sword; it is capable of doing great mischief, while it is insufficient in many affections, and in others capable of leading into error. Nevertheless, the author concedes that the instrument is indispensable; but it is only by means of auscultation that it is robbed of its dangers and made available for diagnostic and therapeutic purposes.—

Every solid or fluid morsel in being swallowed produces a certain sound (noise, murmur, — *Geräusch*,) which may be detected by applying the stethoscope or ear close upon the denuded body. The cervical portion of the œsophagus is examined on the left side of the neck, the thoracic portion to the left of the vertebral column, while the patient is directed to swallow a spoonful of water; the latter is preferable to solid morsels for purposes of experiment; the quantity must amount to at least a tablespoonful to make the noise produced sufficiently distinct. The œsophagus should be auscultated in its entire length, from the level of the hyoid bone to opposite the 8th dorsal vertebra. By a little practice it is easy to become so familiar with what is perceptible by the senses in the act of deglutition, that deviations from the normal are easily detected.

In health.—I. Applying the stethoscope near the hyoid bone in health,—(auscultation of the pharynx), a loud sounding gurgle is heard, with the sensation as if the mouthful of water was forcibly thrown into the ear of the observer. This sound is produced by the sudden compression of air and water in the pharyngeal space—hence its metallic ring and sonorous character. It becomes less audible and fainter, the farther down the neck we apply the stethoscope.

II. In auscultating the œsophagus from the level of the cricoid cartilage to the 8th dorsal vertebra, we may hear during deglutition how a small, but firm spindle-shaped body is firmly enclosed by the œsophagus and rapidly pushed downward with a sound. The author explains: (1.) The morsel (meaning the quantity of water propelled by a single act of swallowing) is compressed by the circular contraction of the œsophagus into one compact body.

The ear receives the distinct impression of a spindle shape,—an impression which is perfectly distinct and indubitable, though the author can not explain *how* it is produced. It is of importance, because deviations are observed in some diseases. (2.) The ear distinctly perceives the circular contraction of the œsophagus. Ordinarily the energy of this contraction is not very marked, but increases whenever there is an impediment to the downward passage of the morsel. (3.) The sound which is distinctly perceived during deglutition is that of a smooth slipping, though sometimes a glugging. Deviations in disease are easily recognized. (4.) The act of swallowing takes place with a certain rapidity,—in a very short, but still measurable, space of time. (5.) The auscultator distinctly perceives that the morsel is carried perpendicularly downward. Hence attention to the following points is required: the *sound* accompanying deglutition, the *shape* of the morsel, the *energy* of the contraction, the *rapidity* with which deglutition is affected, and the *direction* in which the morsel is propelled.

In disease.—The deviations from the normal in cases of disease are the following:

1. As to the *sound:* the *entire absence* of the sound is frequent, and denotes serious abnormities. If the sound is heard down to a certain spot, while it is suddenly absent below, we can safely conclude the existence of one of the following lesions: rupture of the œsophagus, foreign body, possibly a dilatation (*Divertikel*), or most frequently stricture. At the same time we learn the seat of the lesion. A *rubbing* sound is sometimes heard along with the normal slipping sound, similar to pleuritic friction sound, but fainter. This is produced by croupous or diphtheritic processes in the course of typhoid, puerperal, and exanthematic diseases, by fibroid or polypous excrescences, by pustular eruptions in the œsophagus (confluent variola), by large ulcers with detached lower margin, in spasmodic dysphagia. A slightly whistling or *hissing* sound was observed by the author in a case of rupture. A *rustling* sound is sometimes perceived in pseudo-membranous processes, and ceases after vomiting. The slipping or glugging murmur may be accompanied by a *metallic* sound in case of pneumothorax of the left side. A *sputtering* and *running* noise replaces the normal sound in cases of considerable dilatation and relaxation of the tube, in

callous strictures when the muscular fibres are compressed or atrophied, in paralysis, and in all those protracted catarrhs accompanying ulcerations and new-formations, which cause relaxation of the muscular coat by serous imbibition. *Sonorous regurgitation* takes place in cases of recent stricture, especially those of a spasmodic character, occurring in paroxysms, and known as "œsophagism." It may be as loud as is normally heard in auscultation of the pharynx. A *scratching* sound may be artificially produced by the œsophageal probe, and, heard by the stethoscope, is of great importance in determining the exact spot of the abnormity.

2. Deviations in the *shape* of the morsel always take place when the contraction of the tube is wanting or without energy, as well as wherever the configuration of the œsophagus has suffered a change.

3. The *energy* of the muscular contraction may be increased or diminished. The former takes place wherever deglutition is impeded; the ear perceives a forcible contraction in that portion situated just above the seat of the impediment. Increased energy of contraction sometimes gives the ear the sensation of a *jerk or blow*, when the morsel arrives at a certain spot. This symptom is a valuable diagnostic mark, pointing with certainty to an ulceration, erosion, a pricking body, or an otherwise inflamed spot, though it is extremely difficult to find its exact position.

Diminution of the contractile energy takes place wherever the muscular coat is degenerated in structure, or has otherwise lost its contractility and elasticity.

4. The *rapidity* of deglutition is never increased; it is diminished in almost all cases of œsophageal disease.

5. Deviation of the *direction* of the morsel to one side is rare; it occurs when by lesions of neighboring organs the œsophagus itself is turned aside, as was observed in a case of scirrhus of the thyroid. More frequently the direction is reversed: *regurgitation*,—which may be complete, and either immediate (recent strictures, foreign bodies, tender ulcers, œsophagism) or after some delay (in cases of longer standing). This, even when delayed, is accomplished without vomiting, *i. e.*, without the co-operation of the abdominal muscles. Or the regurgitation may be incomplete, the morsel rising only a short distance in the canal, and then resuming its downward passage. This is dis-

tinctly heard. The author observed it in cases of small excrescences, slight callosities, obstruction by tuberculous bronchial glands, and incipient stenoses.

Regurgitation is sometimes accompanied by a loud noise: *sonorous regurgitation;* this has been noticed in stenosis of the cardiac orifice of the stomach, opposite the 7th and 8th dorsal vertebræ.—

A necessary caution is to choose the time for auscultation when the œsophagus is empty. When it is filled auscultation is not practicable, except in reference to incomplete regurgitation.

In another chapter the author adduces clinical examples, and in an appendix treats especially of the diagnosis of strictures.

15. *Phlegmonous Inflammation of the Sub-mucous Cellular Tissue of the Stomach.* By E. R. HUN, M.D., Albany, N. Y., [*New York Medical Journal*, April, 1868.]

and T. GRAINGER STEWART, M.D., F.R.S.E., Edinburgh. [*Edinburgh Medical Journal*, February, 1868.]

M. L., æt. ten years, inmate of Catholic Orphan Asylum. Health always delicate. Complained of not feeling well, Friday morning, Jan. 31st, and asked permission to remain in bed. At about 11 o'clock, one of the sisters, thinking the child had a cold, or some other slight indisposition, administered a dose of castor oil, which was soon afterwards vomited. The patient continued to vomit everything she swallowed, until Sunday morning, February 2d, when I saw her for the first time.

I found her lying on her back; eyes sunken, and surrounded by a dark areola; pulse scarcely perceptible at the wrist, and very rapid; hands and feet cold and blue; some headache; slight tenderness over the epigastrium; tongue moist and coated with a white fur; temperature 96.5 degs. F. Had a natural motion of the bowels yesterday evening. Can retain nothing on her stomach, having tried water, beef tea, whisky, and ice. Vomits almost immediately what she swallows, mingled with a greenish fluid, which she says is intensely bitter. I advised mustard applications to the ankles and wrists, a mustard poultice to the epigastrium, and one tablespoonful of equal parts of milk and lime-water to be taken every half hour.

She retained the first two spoonfuls, but rejected the third. From this time she vomited continually, remaining perfectly conscious, but sinking rapidly, and died at 5 A. M., Monday.

Autopsy, six hours after death.—External appearance of the body, natural. *Thorax:* the right lung was firmly adherent to the walls of the thorax; otherwise natural. *Abdomen:* the stomach appeared very heavy and large. Upon removing it and opening its cavity, it was found to be empty, but the walls were fully half an inch in thickness, and consisted

of the mucous lining and peritoneal investment, with an intervening layer of purulent deposit. A milky liquid could be pressed out from the cut surface in abundance, which responded to the chemical and microscopic tests for pus. A large number of inflammatory granular corpuscles were observed, under the microscope, mingled with the pus corpuscles. This purulent infiltration of the connective tissue extended over the whole circumference from the cardiac to the pyloric orifice of the stomach, and the line of division between the gastric and duodenal mucous membrane was marked by an abrupt ridge caused by the lifting up of the former by the sub-mucous purulent exudation. The gastric mucous membrane was of rather a deeper color than usual, and the peritoneal coat, although somewhat injected, presented a smooth, shining appearance, without any inflammatory product. A microscopic examination showed the termination of the gastric follicles surrounded by pus corpuscles, while no trace of the muscular fibres could be found, except just under the peritoneum, thus demonstrating that the inflammatory action involved only the connective tissue intervening between the mucous and muscular coats. All the other abdominal viscera were examined and found normal. A firm adhesion existed between the convex surface of the liver and the diaphragm.

In looking up the authorities in regard to the above rare and interesting case, I find that ROKITANSKY states that "idiopathic inflammation of the cellular tissue of the stomach, resembling pseudo-erysipelas, and passing on to suppuration, is a very rare phenomenon; it not infrequently occurs as a secondary process, analogous to the metastases of specific acute dyscrasiæ. The parietes of the stomach appear thickened; the stratum of sub-mucous tissue is distended with pus; it is soft and friable; the superincumbent mucous membrane is reddened, and at intervals tense. After a time it gives way at these points, and by numerous irregular cribriform openings, the pus exudes into the cavity of the stomach." LEBERT, in his work on patholological anatomy, speaks of a "rare disease, usually acute," under the head of "Phlegmonous sub-mucous inflammation of the stomach," gives an account of four cases, with a description of the post mortem appearances. Two of these cases were idiopathic, one metastastic (following puerperal peritonitis), and in one which he calls "Phlegmon propagé" the patient, having suffered for a long time from a chronic gastric disorder, was suddenly attacked with erysipelas of the face, followed by pultaceous stomatitis and death in nine days. The autopsy revealed purulent peritonitis, and distinct purulent deposits in the sub-mucous cellular tissue of the stomach. Both J. P. FRANK and J. FRANK refer to phlegmonous inflammation of the stomach, and HABERSHON reports a case, with the autopsy, in his work on diseases of the alimentary canal.

Dr. T. GRAINGER STEWART reports a parallel case occurring in a female æt. 28; in general healthy, but had twice suffered from gall stones. Her symptoms were (Oct. 14) vomiting of green and yellow bile, flatulent distension, and pain in the upper part of the abdomen, neither acute, nor aggravated on pressure.

These symptoms were at first relieved by treatment, but on the 19th Oct. she had a relapse, and died on the 29th. In the *autopsy* the stomach was found of its natural size, distended with air; contained a small quantity of fluid. Its walls were throughout greatly thickened—the thickening tolerably uniform. On section, pus escaped from the cut surface, mostly from the sub-mucous cellular tissue. The mucous membrane was thickened, dense, and almost coriaceous, of a reddish-gray color. Its tubules and stroma contained pigment, but did not appear otherwise altered. The muscular coat was in some parts firm and continuous, in others partially disorganized. The peritoneal coat was inflamed and thickened. There was no pus in the subperitoneal cellular tissue; in the submucous it was in parts infiltrated, in parts collected in little sacs of various sizes.

16. *On Inosuria.* By Prof. FR. MOSLER, Greifswald.

[*Virchow's Archiv f. path. Anat.*, xliii, p. 229. May 1st, 1868.]

In connection with a case of diabetes insipidus reported by Dr. HELLWIG in the same number of the *Archiv*, which was shown to be caused by a tumor in the fourth ventricle, Prof. MOSLER reports another case of the same, which likewise seemed to depend on a lesion of the brain, and in which special attention was paid to the analysis of the urine.

The characteristic features in this case were the presence of *inosit* in the urine, absence of grape sugar, traces of albumen, considerable increase of the quantity of the urine, and low specific gravity (1000–1005); also diminution of urea (23.8 grammes in 24 hours).

According to NEUBAUER, CLOETTA found inosit in the urine in a case of Bright's disease, but not in normal urine. NEUKOMM found it in greatest abundance in the brain, sometimes in considerable quantity in the kidneys, and finally in diabetic urine, together with large quantities of sugar; while VOHL observed it, in a case of diabetes, gradually to take the place of the sugar. Inosit seems to occur in the urine but *rarely*. GALLOIS tested the urine of 102 patients, but found inosit but 7 times,—5 times in diabetic urine in company with sugar, and in 2 out of 25 cases of albuminuria. SCHULTZEN found it in the urine of a man with carcinoma over the fourth ventricle, and of another with a large sarcoma of the base of the brain, compressing the fourth

ventricle. Considerable quantities of inosit were produced from the urine of a person convalescent from cholera, by DÖNITZ.

Prof. MOSLER says the case communicated by him again confirms that inosuria may occur alone, without marked albuminuria or melituria, and that, like the latter, it may be accompanied by hydruria. Perhaps the majority of cases of so-called diabetes insipidus will in future prove, upon analysis, to be cases of inosuria. It is questionable whether it is right to speak of the present case as one of diabetes at all, in the current sense of the term. The distinction has been made between diabetes and hydruria, that the former is a polyuria coinciding with increased excretion of the solid constituents (to 60–70 grammes in 24 hours), while hydruria denotes only an increase of the water. The above case, in which the excretion of the principal solid constituent was diminished, should accordingly be called "inosuria with hydruria," and not an independent disease, but a symptom of a more profound lesion.

The numerous cases of diabetes coming under Prof. MOSLER'S observation tend more and more to convince him, that the symptoms usually ascribed to it are not constant; that even in the progress of the same case the quality and number of symptoms vary greatly. Sometimes, in a case of melituria, the hydruria will be absent, or the thirst, or the increased appetite. Perhaps the time is not distant when we shall be able to dispense with the name "diabetes," and to speak of melituria or inosuria, with or without hydruria, as symptoms of well known maladies.

17. *On the Urinary Pigments.* By Dr. HENRY VEALE, Royal Artillery.

[*Braithwaite's Retrospect*, July, 1868, p. 82; from *Edin. Med. Journal.*]

The plans which are ordinarily recommended for examining the urinary pigments are either very troublesome, or of such little practical value as to be but seldom had recourse to by the clinical physician. . . .

Dr. ANDREW CLARK of the London Hospital has shown that there is no better mode of testing for small quantities of albumen than that of allowing a small quantity of urine to trickle slowly down the side of a test-tube upon about half a drachm of fuming nitric acid. I have employed this test extensively, and fully agree with all that Dr. CLARK has said as to its certainty and simplicity. I had not used it long, however, before I was struck with the difference in the appearance of the pigmentary band. By this term I mean the colored rings which form at the line where the urine floats upon the acid. The quantity of nitric acid em-

ployed should always be sufficient to reach the portion of the test tube, which is uniform in calibre. If the acid should be poured into the tube on one side, the urine should be allowed to trickle down only on the opposite; and it will be found convenient to use a pipette for letting the urine flow into the tube. If more than a drop or two runs down at once upon the acid, there is apt to be a mixture of the fluids, which spoils the experiment. Inclining the tube at an angle of from 50 to 60 degrees, or even more, much facilitates the operation, but in restoring the tube to the vertical position, care must be taken not to agitate the contents. To see the result, the tube should be held in a certain light, and generally it will be best to have a white background, such as a whitewashed wall or a sheet of white paper.

If the experiment has been properly performed, there will be found, when healthy urine has been employed, a yellow ring at the line of contact of the two fluids, and over this a narrow ring of an almost ruby-red color. In many scores of observations, I have not yet met with an exception to this rule. In certain morbid states of the system, however, instead of the ruby ring, the urine strikes a purple, bluish, or absolutely blue ring. When bile is present, there is also a green ring. These colored rings are produced immediately, and are at first very distinct, but they gradually cease to be visible as the mixture of the urine and acid progresses.

In the intermittent and remittent fevers of India the urine will frequently display the purple and blue rings. In nearly every case of dysentery that has come under my observation since my attention was drawn to this subject, I have found a decidedly blue ring to be produced so long as the disease was progressive, and the ruby-red ring to reappear when the patient began to recover. I have not often seen a blue ring in cases of congestion and enlargement of the liver, unless there happened to be some other concomitant state, such as fever or diarrhœa, to which it might be ascribed. . . . It would appear as if even artificial purgation were sufficient to induce the change in the condition of the urinary pigment.

This blue or purple pigment is of course no other than the uroglaucin of Heller, or the indigo-blue of Carter and Schunk; but although it may be possible, as the latter authors have shown, to obtain this substance from nearly every specimen of normal urine, it would be erroneous to conclude that the almost instantaneous formation of the blue ring, when urine and nitric acid are brought into contact in the manner above mentioned, is a normal or physiological change. Up to the present time I have never seen it produced in the urine of healthy persons. As a temporary symptom in the course of a malarial fever, I have not observed it to indicate danger to life or the reverse; but in all cases hitherto in which it has been detected day after day, where it has been persistent, in short, the disease has taken a downward course.

18. *Facts connected with the Duration and Diagnosis of Rheumatism.* From a clinical lecture by S. O. HABERSHON, M.D. Lond., Physician to Guy's Hospital, etc.

[*British Medical Journal*, June 20, 1868.]

It is not surprising that there is a remarkable difference in the severity and in the duration of rheumatism; and, in many instances, these peculiarities may be explained by constitutional complications. Both inherited and acquired morbid tendency thus greatly modify the course of rheumatic disease; one malady does not preclude the existence of another; these associations are often overlooked, they render a uniformity in treatment almost impossible, and they greatly *diminish the value of statistical returns.*

Some of these complications may be briefly dwelt upon, and they are of undoubted importance in everyday practice.

1. Rheumatism occuring in strumous subjects.
2. Rheumatism after syphilis, without ordinary periostitis.
3. Rheumatism with, or directly after, gonorrhœa.
4. Rheumatism in persons of intemperate habits.
5. Rheumatism in advanced life.
6. Rheumatism with miasmatic poisoning.
7. Rheumatism accompanying zymotic disease.

1. The occurrence of rheumatism with struma is by no means an unusual event. It is not only found amongst the poor, but even amongst those who are enabled to use every means of protection from exposure to cold and from the inclemency of the weather. I might adduce many instances which have come under my care in the wards of Guy's Hospital. In some of these delicate patients there is a greater tendency to persistent effusion into the joints; and in some patients organic disease of the larger joints is preceded by a true rheumatic attack; such cases are happily, however, rare. A short time since, a young man, on admission under my care at Guy's, was found to have effusion and commencing caries of the knee-joint, and it was considered as of a rheumatic character, for several other joints had been affected in a transient manner at the commencement of the acute symptoms. Again, it has appeared to me that rheumatic effusions into the pleura are more difficult of absorption in strumous subjects; and it is probable that acute cardiac affections run a more rapid course.

In directing the treatment of rheumatism, a strumous diathesis should receive special consideration. Violent measures are badly tolerated, and the convalescence is thereby greatly retarded, even if irreparable mischief is not induced. Strumous subjects are most unfavorable for any depletory measures; and we can not too strongly express our sentiments in reference to the free use of mercurial medicines. We have seen acute pericarditis come on during salivation, followed by great irritability of the heart; and the convalescence of patients affected with rheumatism, who have been treated with mercurial medicines so as to affect the system, is, we believe, slow and tedious.

Another fact well worthy of consideration, in reference to the effect produced by preparations of mercury is, that when the valves of the heart have been thickened and contracted from old rheumatic disease, the relief arising from the increased activity of the abdominal glands by this medicine is often very marked; but, unless it be speedily withheld, the muscular fibre of the heart becomes enfeebled, and thereby dilatation is increased; and in some instances we have witnessed ulceration in an old damaged valve, which was possibly due to the same cause.

A favorite plan of treatment with some practitioners is the very free use of alkalies in acute rheumatism; but neither is this plan free from injurious effect, especially in strumous subjects. There are three conditions that we have thought attributable to, or, at least, greatly promoted by, this excessive administration of alkalies: 1, great anæmia; 2, excessive irritability of brain; and 3, irregular choreal movements. The alkalies, doubtless, enter the blood, and that perhaps more readily than any other medicine; and, when given in immoderate quantity, they change the blood constituents in a manitest degree. The second condition of functional irritability of the brain is, perhaps, due to a similar cause. We are well aware that all these states may be quite independent of these remedies; but we believe that these conditions may arise from the improper use of remedial agents.

We do not mean to affirm that alkalies, when given so as to produce more free action of the kidneys and other glands, are not of service, nor that a free mercurial purgative is not also beneficial; but to administer ounce after ounce of alkaline remedy to neutralize so much lithic acid or lactic acid, because the perspiration and the urine are unusually acid, is certainly neither physiological nor is its good result borne out by clinical experience.

Strumous subjects with rheumatism soon bear the preparations of steel with advantage, as the iodide of iron, the potash tartrate, etc.; and in some, especially chronic cases, cod-liver oil is of great value.

2. Periosteal disease is a common sequence of syphilis; and not only does the true periosteum become affected, but other fibroid tissues are implicated; pain is produced, and the patient is said to have rheumatism; but, besides this spurious rheumatism, persons who have been poisoned by syphilis are often the subjects of true rheumatic disease of the joints; the joints become red, swollen, and painful, and the malady presents all the characters of the simple ailment. We have, however, found that it subsides less easily, and is very apt to return on the slightest exposure to cold and wet.

In the treatment, alkalies are often of great value, especially the iodide of potassium; and, where there is diminished power, these alkaline remedies should be combined with quinine or with bark in one or other form.

3. Whilst some altogether deny the existence of gonorrheal rheumatism, others regard it as a form of pyæmia; gonorrhœa is, unfortunately, so common a disease, that very many hospital patients are found with it; and in many instances only a short period elapses before the symptoms

of rheumatism are developed, or they arise whilst the discharge continues. What, however, is the relation of the two ailments? Is their occurrence a mere coincidence? or does the pain in the joints arise from a poisoned condition of blood allied to suppurative fever? Instances have occurred in which acute suppurative articular disease of a fatal kind has happened, several joints being involved, for which no cause could be traced but the gonorrhœa then existent. Still, whilst numerous instances of gonorrhœa occur without any articular affection, or any recognizable disease of the blood, the following instance shows the manner in which the veins sometimes become involved. A patient, some years ago, was admitted under my care into Guy's Hospital for acute pneumonia on the right side. The symptoms were well marked; and, with saline treatment (bicarbonate of potash), he speedily convalesced, and was about to leave the hospital. Fatal symptoms, however, very unexpectedly came on: for, after a good night and partaking of his usual breakfast, even assisting to clear away the breakfast things, he told the nurse that he was faint; he sat down upon the edge of his bed, and in about half an hour he died. The lung was recovering, as we expected, and the pneumonic deposit in it had become nearly absorbed; but we found, what had previously not been ascertained, that he had recently suffered from acute gonorrhœa. The veins at the base of the bladder were filled with adherent fibrine, the iliac veins were in a similar state; and a clot separated from these veins had been carried to the right ventricle, and the action of the heart became so embarrassed as to cause speedy death. Rheumatism associated with gonorrhœa or gleet is, we believe, unusually persistent.

4. In persons of intemperate habits, whose vessels have become diseased and the viscera damaged, we have another cause for longer duration in an attack of rheumatism; but this obstinacy of character is still more manifest where—

5. The malady occurs at a period of life when the vessels have become degenerated. Senile rheumatism has peculiarities, and one of them is greater persistency.

6. When persons who have resided in miasmatic districts become affected with rheumatism, there is a more marked periodicity in the symptoms: one day the skin being normal, the next clammy and perspiring, with rheumatic pains. We have witnessed, with enlarged spleen, sudden severe eruption on the skin, at first in red blotches of roseola, and afterwards blebs, resembling rupia escharotica, showing that there was, at least, peculiar cachexia, modifying the rheumatic affection.

7. Instances have been recorded, in which zymotic disease, as typhus and typhoid, have been accompanied with rheumatism. I have never witnessed well marked instances of this kind; but there is nothing opposed to the known facts of disease, that an affection, having its origin in disordered metamorphic changes, should co-exist with one arising from animal poison, as typhus. It must, however, be remembered, that some cases of pyæmia closely resemble typhus fever. A few months ago, a woman was under my care in the hospital for chronic rheumatism. She slowly convalesced, and was about to return home partially relieved.

In the next bed was a severe case of typhus, and the rheumatic patient became alarmed, the tongue became dry and brown, the pulse small and very compressible; there were no maculæ, and the temperature was not much increased. It was feared that she might sink from exhaustion; stimulants were given freely; she rallied in a few days, and left the hospital. It was doubtful whether the symptoms arose from nervous alarm, or whether the contagion of typhus had anything to do with the sudden prostration. If, then, there be such complications, and others that might be mentioned, statistics, unless compiled with more than ordinary care, must be exceedingly deceptive and of comparatively little value.

Again, whilst there are many characteristics of true rheumatic disease, few maladies are more easily mistaken, and there is *no* sign which is *uniformly* present. Pain is, perhaps, the most constant indication, with stiffness of one or other joint; but rheumatic pericarditis may, and often does exist, without any pain whatever. The same may be said in reference to febrile symptoms, to increase of temperature, and to changes in the urine; none of these signs are pathognomonic.

Many maladies are designated rheumatic which have no connection with that disease.

1. *Diseases of the spine* are often said to *commence* with an attack of rheumatism; but it will generally be found that the pain in the course of the nerves or in the fibrous tissues arises from direct implication of the nerves or of their centres.

2. The same remark applies to pain produced by the pressure of *cancerous, aneurismal*, or other tumors. This cancerous disease of the lumbar glands is often mistaken for lumbago; so also the pain from aneurismal disease of the thoracic and abdominal aorta, when no pulsating tumor can be detected, is referred to rheumatism.

3. During the course of *renal disease*, abnormal irritation arises not only in the serous membranes, producing pericarditis, pleurisy, peritonitis, etc., but a similar change happens with the synovial membranes, and a form of disease is induced which simulates rheumatism.

4. In chronic poisoning by *lead*, vague pains in the fasciæ, as well as in the joints, have been designated "saturnine arthralgia."

5. We have already referred to *periosteal disease* as a source of fallacy in the diagnosis of rheumatism.

6. *Shingles or herpes zoster* may be found in the course both of the cerebral and spinal nerves; and the severe pain which precedes the eruption of the vesicles, and which also follows their disappearance, closely simulates local rheumatism.

7. A more important disease, and one which is attended with fatal issue, is *pyæmia*. It closely resembles rheumatism; for, with rigor and febrile symptoms, there is fixed pain and swelling in the joints—first one, then another, being affected, though without subsidence of those parts first attacked. But, whilst there may be some similarity in the symptoms, the prognosis is widely different. The one is generally a curable disease; the other a fatal one.

We might also refer to the severe pains in the back which precede some of the exanthems, as small-pox; and to the general *malaise* of fever; but these could scarcely be mistaken for rheumatism. And, lastly, the symptoms described as arising from acute *trichinous disease* have some resemblance to rheumatism in the pain in the limbs. I have never seen an instance of a patient dying in consequence of this affection, although in numerous cases I have witnessed the trichina spiralis in the muscles after death.

It is an excellent rule, whenever there is local pain, to examine for a local cause; but it is often surprising to notice the strange maladies which are designated as rheumatic, at one part or other of their course, from the character of the pain; and, even when the disease is truly rheumatism, we attach but little value to statistics drawn up without reference to individual peculiarity. The natural result of this disregard of constitutional difference is to follow a routine plan in the remedies employed; in fact, treating the disease rather than the patient. We believe that rheumatism may be greatly relieved, or shortened in its course, by the proper use of means; and we strongly deprecate the treating of mere symptoms, as both injurious and unphysiological. But we would urge that each case be estimated in all its relations; and that a patient having severe rheumatism should not be at once dosed with calomel and opium, or with a certain number of drachms of saline medicine, irrespective of every other consideration.

19. *On Hæmorrhage from Waxy or Amyloid Degeneration.* By T. GRAINGER STEWART, M.D., F.R.S.E., Pathologist and Extra Physician to the Royal Infirmary, etc., etc.

[*Brit. and For. Med.-Chir. Review*, Jan. 1867, p. 201.]

For some years past the author has noticed that hæmorrhage from the stomach and intestine occurs in cases of waxy or amyloid degeneration, and that independently of ulceration of the mucous membrane. From a look into the literature of the subject, it appears "that hæmorrhage has been observed accompanying the waxy degeneration in the *spleen*, in the *skin*, in *mucous and serous membranes*, in the *substance of muscles*, in the *mucous membrane of the intestine*, and perhaps in the *kidney*." After relating briefly four cases of hæmorrhage from the stomach and intestine in subjects affected with waxy degeneration (proved in three by autopsy), the author states his conclusions, viz.:

That hæmorhage is not a very infrequent consequence of the waxy or amyloid degeneration of vessels.—That, next to the spleen, the intestinal tract is the most common seat of such hæmorrhage.—That the hæmorrhage occurs independently of any visible ulcerative process.—That it

probably depends upon rupture of the capillaries of the affected parts.—That waxy or amyloid degeneration of the liver does not of itself suffice to induce hæmorrhage from the bowels.—That the hæmorrhage occurs in cases in which the liver is free from waxy degeneration.—That the occurrence of hæmorrhage increases the danger of the patient. But, that sometimes it comes and goes for years without markedly depressing the vital powers.

In regard to treatment I may add that, so far as I have yet seen, the diarrhœa and hæmorrhage appear to be better controlled by sedative and astringent enemata than by any other means.

20. *Treatment of General Dropsy by the Hot Bath.* By Dr. LEO, Bonn.

[*Sitzungsber. d. niederrhein. Gesellschaft in Bonn.* 1867. p. 9.]

The case reported is that of a girl, æt. 13; she had three years previously suffered from articular rheumatism, and since then had been attacked every winter by difficulty of breathing, which received no treatment, however. In May, 1866, she received a fracture of the femur, which healed in six weeks. In Sept., 1866, she complained of chilliness, loss of appetite, and shortness of breath; she grew irritable, somnolent, and the legs swelled; these phenomena increased to such a degree, that Dr. L. found her, at his first visit, 7th Nov., in the following state: The dyspnœa compelled her to sit up in bed; pulse 140; impulse of the heart hurried and indistinct; face and hands cyanotic; high degree of general dropsy: hydrothorax, hydropericardium, ascites, and general anasarca, especially in the labia pudendi and legs; urine contained much albumen; pain in the chest and abdomen, cough and dyspnœa dispelled sleep. A sure diagnosis of the cardiac affection was impossible under the circumstances.

The advice to transfer the child to the hospital was not followed till 8th Dec., 1866. The objective symptoms were unaltered, the debility considerably greater. Patient had now been in bed for three months; many remedies had been used in vain. Dr. LEO therefore concluded to make methodical use of the hot bath as recommended by LIEBERMEISTER and ZIEMSSEN.

On account of the great debility of the patient, baths were not given at once, but the child was "packed" in clothes wrung out of hot water. First packing, 9th Dec., followed by perspiration. At night, subcutaneous injection of 1-6 grain morphine to allay the severe dyspnœa.

10th Dec. Second packing: free perspiration. Both legs discharged fluid by drops from small excoriations.

11th Dec. Third packing. The perspiration in the blanket very uncomfortable, increased the dyspnœa. Injection of morphine.

12th Dec. Bath, 106° F., 15 minutes; followed by woolen blanket. Profuse perspiration. Ordered 1 tablespoonful of infus. digitalis (℈i—℥vi) with ʒi roob juniperi, 4 times a day.

One bath daily until 20th Dec. (eight in succession), gradually lowering the temperature to 99° F.; perspiration always very profuse. The dyspnœa diminished, the nights became more comfortable. On the 16th, the legs, arms, and abdomen still much swelled, but the chest more relieved. Secretion of urine increased. On the 18th the urine was free from albumen. On the 20th the anasarca had left the arms. Digitalis increased to 3ss in the mixture. Baths henceforward only three times a week, 99° F.; eight baths until 9th Jan., 1867.

On the 22d Dec. the abdomen was considerably smaller, the legs slightly so. Action of the heart quieter; appetite and sleep good. Improvement progressed rapidly, the dropsy disappearing from above downward. On the 25th the water had almost completely left the thighs and legs also, only the feet were swelled to above the ankles. Patient walks about after a treatment of 16 days, having been confined to bed for nearly 4 months. The last traces of œdema disappeared by the 2d January, and the patient left the hospital on the 9th. The cardiac trouble proved to be insufficiency of the mitral valve, with stenosis of the orifice and dilatation of the heart. The kidneys, which had suffered considerably, were relieved after the sixth bath.

This case shows that the hot bath, as recommended by LIEBERMEISTER and ZIEMSSEN, is a highly valuable remedy in general dropsy following upon chronic disease of the heart with affection of the kidneys.

SURGERY.

7. *On the Use of Carbolic Acid in Surgery.* By D. S. E. BAIN, F.R.C.S., Edin., Staff Surgeon Major, Quebec.

[*Canada Medical Journal*, March, 1868.]

In the columns of the *Lancet* during the past year, Prof. LISTER, of Glasgow, was the first to bring before the medical world the uses to which carbolic acid could be advantageously applied, and notwithstand-

ing the controversy which has since arisen on this subject, it must be admitted that Mr. LISTER has the honor of having brought prominently forward in the columns of the *Lancet*, the uses to which this acid can be applied externally. From Mr. LISTER's favorable description, I was induced to try it in various ways: the first was a case of carbuncle, only remarkable for the method of treatment. It occurred in the ordinary situation, viz., the nape of the neck; free incisions were made, and a pledget of lint saturated with carbolic acid was inserted in the wound, over which a solution of the acid in glycerine (℥j—℥j), was used as the ordinary dressing. Within 48 hours the slough separated, leaving a clean healthy surface which healed rapidly under the daily application of the acid in glycerine. From the marked success in this instance, I suggested its use in various degrees of strength, according to the nature of the affection. Thus in sloughing (syphilitic) ulcers, and in sluggish ill-conditioned sores on the extremities, this application has met *every* requirement in the most perfect manner. To cite other cases, a few weeks back, a serious gun-shot accident occurred to a young girl 16 years of age, carrying away the greater portion of her lower jaw, wounding the tongue, and destroying much of the soft parts. The dressing at my suggestion consisted of carbolic acid and glycerine (℥i—℥i), which was applied by saturating lint and placing it *carefully* in all the crevices. The hæmorrhage, which was severe, ceased, and the subsequent discharge was healthy, without the slightest unpleasant odor; portions of bone came away in the shape of exfoliations in some four weeks after the accident, without the slightest perceptible fetor, and I am happy to add that the girl is now convalescent.

8. *The Bristle Probang.* By LEWIS A. SAYRE, M.D., Professor of Orthopædic Surgery in the Bellevue Hospital Medical College, New York.

[*New York Medical Journal*, June, 1868.]

Prof. SAYRE relates several cases of foreign body in the œsophagus, in which this simple instrument was successfully employed. The first case was that of a young man, who had swallowed the plate to which was attached an artificial right central incisor tooth. Other instruments had been tried in vain. The writer therefore determined to use the *bristle probang*. This instrument was invented I think by a surgeon in the East India service, but whose name I have never heard. For an emergency occurring some weeks previously, I had made one of these instruments in the following manner. I took an ordinary No. 10 elastic catheter and cut off about one inch from its lower end; I then ran through it a flexible whalebone about three inches longer than the catheter, and tied on its end a small piece of sponge; I then took to pieces an ordinary paint brush, and tied one end of the bristles around the sponge, completely surrounding the whalebone

rod with them. The other end of the bristles I tied around the cut extremity of the catheter.

Fig. 16. [Copied from N. Y. Med. Jour.]

Fig. 16 (one-fourth natural size) represents the instrument when complete. By a slight twisting, the bundle of bristles can be reduced in diameter to about the size of the catheter. By holding the catheter firmly with one hand, and with the other drawing upon the rod so as to bring the sponge toward the catheter, each of the bristles is bent into a loop, and the whole bundle is converted into a disc about five inches in circum-

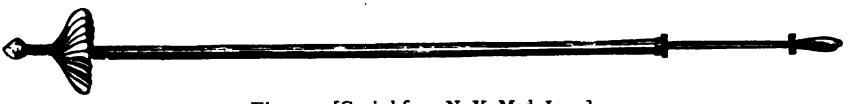

Fig. 17. [Copied from N. Y. Med. Jour.]

ference (Fig. 17), large enough to completely sweep the œsophagus, and to remove any foreign body lodged therein.

The sponge having been dipped in water, the instrument was extended, and was readily passed the entire length of the œsophagus without obstruction; it was then distended in the manner described, and slowly withdrawn with a slightly twirling movement, so as to sweep all parts of the tube, and fortunately brought out the plate and tooth riding on its meshes without difficulty, and with scarcely any pain.

Two other cases are reported by Dr. SAYRE, in which he removed fish-bones from the œsophagus, the bristle probang bringing them away, when the "finger, probang, and forceps failed to detect anything."

Although the instrument I have described has been many years in use, it does not seem to be as generally known to the profession as it deserves, and for this reason I have thought it advisable to publish the foregoing cases.

Upon inquiring at the New York, Bellevue, and Charity Hospitals, I find that none of these institutions have it in their collection of instruments.

The great advantage of this instrument over the ordinary forceps, or the penny-catching double hook, is that the elastic pressure of the looped bristles so completely distends the œsophagus, that the foreign body rides out on the top of the brush without any resistance from the muscular contractions which would otherwise take place, from the irritation which would follow the attempt to remove a rough or jagged body through a muscular tube.

The simplicity of the instrument, and its ease of construction, are also points of value, particularly to the country practitioner who has not the

facilities of the instrument maker's shop, since any surgeon can, upon emergency, make one for himself at a moment's notice.

9. *On the Torsion of Arteries.* By Prof. SYME, Edinburgh;

[*Braithwaite's Retrospect*, July, 1868, from *Lancet.*]

and Prof. G. M. HUMPHRY, M.D., F.R.S, Surgeon to Addenbrooke's Hospital; etc.

[*British Medical Journal*, May 23, 1868.]

Prof. SYME says:

Having lately recommended the use of "torsion" on all occasions except where the great arterial trunks are concerned, I think it right to state that about a fortnight ago, having amputated the leg of a man in the hospital at the knee for disease of the joint, I twisted the popliteal artery with perfect ease and success. The stump being treated in accordance with the antiseptic system, there was no constitutional disturbance, and no suppuration. On the fourth day there was a slight serous discharge, but hardly any afterwards, and on the eighth day the wound was completely consolidated.

Although it would thus appear that arteries of the largest size are amenable to torsion, the expediency of trusting to this means for their closure, instead of employing ligatures, will admit of question until further experience ascertains how far it is safe to do so. But in the meantime there can now be hardly any hesitation in twisting all the vessels of ordinary capacity; and it may be mentioned that since I adopted this system there has not been a single case of secondary hæmorrhage, either in public or private.

[The proper mode of applying torsion is to twist the end of the artery until it is twisted off. We believe it is to this that Mr. SYME refers.—*Eds. Lancet.*]

Prof. HUMPHRY, in a clinical lecture, expresses a favorable opinion both of the ligature and of the plan of acupressure proposed by Sir JAMES SIMPSON, but still is not insensible to the importance of improving our treatment of wounds. The success of operations will be increased in proportion as we can attain immediate union of the wound, and the prospect of attaining it must depend a good deal upon the mode in which the vessels are secured; the first desideratum being to prevent bleeding; the second, to do it in such a manner as shall least interfere with the healing process.

After thinking, therefore, a good deal on the subject, and reflecting over various modes in which the end of the vessel could be temporarily sealed, I tried the plan of torsion, which has of late been used in Edinburgh and elsewhere, and have employed it now in a great many cases.

including amputation in the thigh,* in the leg, and many others. Indeed, for several months I have used no other means but torsion for arresting hæmorrhage; and it has answered perfectly in all the cases. There has, I think, been less pain after the operations than was experienced when we used the ligature; and the wounds have, on the whole, done better and healed more quickly. In such an operation as excision of the knee, it is especially important to prevent bleeding from the various small arteries that are divided; for, unless this can be carefully done, blood will collect in the wound, between and behind the bones, after the patient is in bed, will lead to suppuration, and be a source of much trouble. To prevent this evil, I found it necessary to tie several vessels; and the presence of these ligatures with the portions of tissue strangulated by them was certainly a disadvantage. In the last two cases in which I have performed this operation, I have gladly availed myself of torsion of the arteries, and have been well satisfied with the result. Still, a greater number of cases of this and other operations are necessary, to test properly the value of this mode of closing the arteries. The plan which I adopt is, as you are aware, for the smaller arteries, to use a pair of clasp-forceps, which, at the end, are rather broad, and provided with fine interlocking blunted teeth, by means of which the artery is held securely during the twisting. This I continue till the coats are quite torn through, and the forceps are thereby set free. In the case of the larger arteries, I found, by experiment on the dead body, that these forceps divided the coats of the vessel, and tore their way out too quickly; so that, when I injected water into the artery by a syringe, it soon, under very slight force, separated and obliterated the folds of the inner coat, which had been caused by the torsion, made its way under the outer coat, and burst through that coat. I tried other forceps of different shapes, and found that the pair of strong narrow-bladed hinge forceps, which I show you, and which I have been in the habit of using to extract bone in operations for necrosis, answered the purpose better than any others that I have yet used. They resemble somewhat strong dressing-forceps; but the handles are large, giving good purchase; the blades meet closely, and the transverse ridges and furrows near the ends are well adapted, so that they hold the end of the artery tightly without tearing it. You see when I seize with these forceps the end of this femoral artery, which I took from a subject yesterday, hold it tightly and twist it, that although the forceps are not sufficiently broad to cover and embrace the whole diameter of the artery, yet they hold it firmly and retain their hold till the entire end of the vessel has been twisted off. The remaining part presents a conical twisted end, which unfurls itself to some extent, but not entirely, and remains completely closed. I now throw water into it; and not till I have used considerable force do the compressed folds of the inner coat yield, separate, and permit the water to pass beneath the outer coat, which again is so sealed by the twisting, and so strong, though thin, that it offers considerable resistance before it gives way—a resistance much

*Prof. HUMPHRY has used torsion to the femoral artery after amputation in the thigh in two cases. The patients were young.

greater than would be required to stand the pressure of the blood in the living artery. I twist other portions of artery in the same manner. They are all firmly closed. Cutting them open, we find the inner coat more or less lacerated and contused, its surfaces squeezed together and thrown into folds, and held in close contact by the twisted outer coat, which forms coils, terminating in a cone or point at some distance beyond the termination of the inner coat. In some instances, I have found the inner coat detached from the outer by the squeezing that occurs during torsion, and more or less reflected into the artery so as to present its divided edge to the blood-current.

You will, from this explanation and these experiments upon portions of artery (and I have made several observations upon the dead body corresponding with these), understand what takes place when an artery is twisted. The inner thick, elastic coat is thrown into folds, which are crushed or squeezed together so as to block up the channel of the artery; it then gives way, and is torn through, and is held in its position by the outer coat, which resists longer, and undergoes still further twisting and squeezing together of its structures, so that when it is finally torn through, it retains its twisted condition, and continues to exert pressure upon and give support to the inner coat.

I have just had an opportunity of examining a popliteal artery which was twisted in a young man after application six weeks ago. It was perfectly closed, was contracted, and surrounded by toughish structure for some little distance. Its internal coat was wrinkled near the end, and showed some traces of ecchymosis.

You have probably observed that the attention to the blood-vessels after operations has occupied rather more time than it did when we used the ligature; and torsion has certainly, in my hands, proved somewhat more difficult than the ligature, requiring more care, more patience, and more perseverance. It is necessary to include the vessel itself in the forceps; for it is useless to twist the surrounding tissues; and it is not always easy, when blood is flowing, to make sure of the exact point from which it flows. Often, therefore, when I have been twisting, I found that my efforts were of no avail, because I had not seized the exact orifice of the vessel. Even when the vessel is seized, the inner coat is liable to slip from between the blades of the forceps, the outer coat only being retained and subjected to the torsion. And this is not to be relied on. When, however, I have been sure of having seized an artery and properly twisted it, I have not known any further bleeding to take place from it; and if it be carefully done, torsion is, I think, a valuable means of securing small and medium-sized arteries, such as the tibials, facial, etc., and by reducing the number of ligature-threads, it will be found to promote early healing of wounds. Whether it will prove to deserve our confidence in the case of the larger arteries, I am not so sure. But I should say that the doubt is founded rather upon what I have found in experimenting upon the dead subject than what I have observed in the living; and it may be that better appliances and more experience may justify a greater reliance upon its efficiency. The experiments which I have shown you

to-day upon pieces of artery, and those which some of you have seen me make upon the dead body, have proved to you that much care is needed in the selection of proper forceps, and in so seizing and holding the end of the vessel that its inner coat does not slip from between the blades during the twisting; and it will have occurred to you that in the living subject it is not easy to make sure of doing this as it should be done, or to feel certain in any instance that the artery has been properly twisted. The only rule I can lay down is to use all care in the process, especially in grasping the orifice of the artery, and to examine well the remaining torn end after the forceps have been set free by the torsion, so as to ascertain, if possible, whether the vessel is completely closed.

10. *On the treatment of Varicose Veins.* Clinical remarks by STEPHEN SMITH, M.D., Surgeon to Bellevue Hospital.

[*Medical Gazette*, May 2, 1868.]

The treatment of varicose veins is palliative or radical. The palliative treatment is directed to the external support of the veins by means of such appliances as may be adjusted to the part, and will make equal pressure at all points. In the lower limb, a bandage properly applied will answer the purpose temporarily, but it is so easily displaced that it serves no useful purpose where the patient leads an active life. The elastic stocking is a far better appliance, and is generally resorted to by those who can afford them.

The radical treatment aims at the obliteration of the vein, and hence a permanent removal of the conditions on which the disease depends. In carrying out this treatment we must necessarily resort to operative measures, and no one of the various operations hitherto adopted has proved to be free from danger. Too frequently inflammation has occurred, and occasionally it has assumed a severe type and terminated fatally. The form of inflammation most dreaded was phlebitis, or inflammation of the vein itself. This disease was thought to be almost certainly induced when the vein was simply wounded, and but few surgeons had the hardihood to penetrate a vein in their operations. But inflammation also frequently occurred when the instruments employed were passed in the neighborhood of the vein, or when excision of the vein was performed, and occasionally proved disastrous. These results have from time to time brought nearly every operation into more or less disrepute, and rendered surgeons timid about resorting to radical measures.

The obliteration of the vein by caustics has given more general satisfaction than any single method. And yet it is not free from severe if not dangerous consequences. We do not always sufficiently limit its local action, and it may then penetrate deeply and extend widely and do great harm. It is not, therefore, a remedy which can be placed in the hands of every practitioner with perfect safety.

Of the two methods of treatment, namely, the palliative and radical, the latter is infinitely preferable, provided our procedure is safe and effective. These conditions I think have now been secured. The method

to which I refer is the injection of the vein with persulphate of iron. The operation has been performed frequently in this hospital, and with the happiest results.

The attention of the profession of this city was first called to this method of treating varicose veins by Dr. MINOR, of Brooklyn, in 1860. He reported five cases, in all of which the injection was successful, and in none were there unfavorable consequences.

It may seem strange that an operation which involves puncture of a vein should be attended with no severe inflammatory symptoms, when the older operation by transfixion was so frequently dangerous, and occasionally fatal. This is explained by the fact that in injections the vessel is itself medicated by the persulphate, which tends powerfully to arrest the inflammatory process.

It must be stated also in regard to the persulphate that it is a non-irritant to the internal membrane of the vein. However freely it is employed, the inflammation is still very inconsiderable, rarely amounting to more than a blush of redness, and slight swelling; and at the most giving but a small subcutaneous abscess, or, as in one case, a light erysipelas. You remember that I speak now of the persulphate of iron. Some have mistaken, and have employed the perchloride, which, though powerfully hæmostatic, is nevertheless an irritant, and creates frequently considerable local inflammation.

The immediate effects which we obtain by injections of the persulphate are the same as those which we seek by other methods, namely, the formation of a clot. This clot is very firm, and at once perfectly occludes the vessel. It is much more firm and effective than those clots which form from external pressure, or other mechanical agencies.

The operation is very simple, and can readily be performed by any one. A common subcutaneous syringe is first charged with the liquid persulphate (Squibb's preparation); the patient takes the erect position so as to distend the veins of the leg; the needle of the syringe is then passed into the cavity of the vein, which is pressed by the finger, and five, ten, or fifteen drops injected; in a few minutes the clot is detected by external examination, and the needle is withdrawn. The patient should remain in bed for several days, and cold applications be made to the puncture.

As a precautionary measure I always apply a compress and roller over the trunk of the vein on the cardiac side to prevent the possible escape of a coagulum from the mass into the general circulation. I usually inject the larger trunks, and generally inject at several points at one sitting.

In the treatment of varicose veins, therefore, you should, in my opinion, adopt radical measures. The time has passed when you should be satisfied with merely palliative treatment in a case which demands interference. Palliative measures, as the term indicates, are not curative; they leave the affected part in no better condition than when first employed; they are a constant source of annoyance, and to the poor, a burdensome annoyance, which can not long be endured.

In the method by injection of the persulphate we have a remedy which

answers every indication, and may be regarded as entirely safe and efficient.

11. *Pathological Physiology of Hæmorrhoids.* By A. Dubreuil and Paul Richard.

[*Archives de Physiologie*, Vol. i. p. 233. March and April, 1868.]

Generally speaking, the veins of the rectum have been very little studied.

The best description of them is the one found in M. Sappey's anatomical work, where he says: All the veins of the rectum empty into the inferior mesenteric, and from there into the portal system. The general venous system constituting only, by its anastomoses with the most inferior veins of this intestine, a kind of derivative passage, which, in cases of obliteration of the portal vein, aids in the centripetal course of the blood.

Some researches undertaken on this subject permit us to give facts, if not entirely new, at least more precise, in the history of certain anatomical details, in connection with the pathological physiology of hæmorrhoids.

Here is a resumé of the propositions which we have to offer on this subject:

The veins of the inferior part of the rectum have, in general, an ascending direction; those of the superior part affect a star-like disposition.

The veins which are distributed to the anus—cutaneous portion as well as mucous—enpty into the inferior mesenteric.

The communications of these veins with the general venous system are formed only—except in obliteration of the portal vein—by very small vessels, and it is very difficult to inject solid matters from one system into the other.

The veins of the rectum, as are all others of the portal system, are deprived of valves.

The veins which, in the commencement of their course, are placed under the mucous membrane of the rectum, have, in order to get out of the rectum, to pass through the muscular fibres which constitute it.

The veins bringing the blood back from the cutaneous portion of the anus must, for the most part, first pass through the fibres of the external sphincter in order to become intra-rectal; then the same as the preceding veins, pass out from this intestine by perforating its muscular coat.

At the point where the veins that we will call external hæmorrhoidals become internal by passing through the external sphincter, it is very manifest, particularly after injection, that this muscle presents orifices for their passage—like ordinary button-holes—formed by the slight separation of its fibres. The same disposition obtains at the point where the intra-rectal veins become extra-rectal, with the additional disposition that these latter are in a manner double—*i. e.*, they are formed by two elongated rings superposed the one on the other, of which the long axes are at a right angle the one with the other. On the inside the circular fibres offer an orifice almost elliptical, with its long axis transverse, the same as the muscular fibres, whilst the orifice formed by the longitudinal fibres is elongated longitudinally.

If a number of rectums be injected with care we find that nearly all of them will present some hæmorrhoidal dilatations, too small most frequently during life to give evidence of the phenomena proper to this condition, and therefore not attracting the attention of the subject, but sufficiently large, however, to constitute in the eyes of an anatomist a varicose dilatation, which most often appears under the form of a swelling, more or less round in its character, terminating or rather commencing the vein.

It is easy to comprehend that the hæmorrhoids, external as well as internal, are situated immediately under the rings formed either by the sphincter or by the fibres themselves, and we observe the following disposition, viz: the vein which presents a considerable swelling in the portion situated below the orifice is, on the contrary, reduced to a very small calibre after it has passed through the orifice.

These few anatomical considerations make clear, it appears to us, the pathological physiology of hæmorrhoids, and the muscular rings of the rectum ought manifestly to be considered as the immediate and active agents in the production of this varicose condition of the rectal veins.

[*S. H. Frazer.*]

12. *Dislocation of the Thigh into the Ischiatic Notch; Reduction by Manipulation.* By Mr. J. W. CALLENDER.

[*Amer. Journal of the Medical Sciences*, July 1868; from *Lancet.*]

Mr. CALLENDER records a case in which, after repeated failures, he adopted the following plan:

The thigh was bent upon the abdomen, and I slowly moved the limb

into a straight line with the body, so that the head of the bone could be felt projecting in the buttock, outside the tuber ischii. The limb, in a straight line with the trunk, without allowing any rotation outwards, was then drawn forward from the abdomen, and forced downwards (extended), and the head of the bone at once slipped into the acetabulum. These movements were made slowly and steadily, and the limb was extended with care, remembering the great leverage which we were making use of, and the position of the head, which was being pressed up into the socket. In two recorded cases the neck of the femur has been broken under a somewhat similar strain.

If these manœuvres are examined by the help of the skeleton, it will be found that by flexion, and by moving the thigh into a straight line with the body, the head is brought from the notch into the groove just above the outer side of the tuber ischii. Here it is opposite the least prominent part of the lower edge of the acetabulum, and if the femur is depressed whilst in this position, the head easily slips into the socket. Dr. Markoe,* with the addition of a rocking movement as the thigh is extended, and Dr. Hamilton, employ somewhat similar manœuvres, and they speak favorably of their success.

I have been anxious to give some explanation of the manner in which the method by manipulation acts, and to insist upon the importance of not abducting or rolling the limb outwards, for if this is done the head of the bone is almost certain to roll past the acetabulum to its inner side; or if an obturator dislocation is under treatment, and the thigh is rotated inwards, the head of the femur will, as I have several times seen it, roll round on to the ischiatic notch, just reversing the movement which takes place when an ischiatic dislocation is improperly manipulated.

Three steps complete the operation. First, the thigh is bent on the abdomen; secondly, it is brought into a straight line with the long axis of the body; thirdly, it is forced down (or extended) in a straight line, parallel with its fellow. The dislocation is thus reduced without difficulty, and without the need of any assistant. And, what is of chief importance, the operation avoids all risk of rolling the head of the bone round the acetabulum, an accident which is so apt to complicate manipulation as commonly practiced.

13. *On the Treatment of Fractures and Dislocations of the Elbow-Joint, and on the General Impropriety of Passive Motion.* An Abstract of a Clinical Lecture by HENRY J. BIGELOW, M.D., Professor of Surgery.

[*Boston Medical and Surgical Journal, May* 7, 1868.]

There is no class of injuries so frequently productive of discontent, and perhaps so often the cause of litigation, as the traumatic lesions of the elbow-joint. The fractures of the elbow are especially common in children; and the surgeon is often called upon, some six or eight weeks after

* New York Journal of Medicine, 1855.

the accident, to say whether the elbow has been properly set. Although he should uniformly refrain from expressing an opinion which can not be given without a full knowledge of the circumstances under which the patient was treated, and although it is at that interval of time occasionally impossible to say exactly what the original injury was, yet he is often led to the painful conviction that the result might have been better if certain simple rules of treatment had been rigidly adhered to. These rules are often lost sight of; they do not receive that prominence in books which the importance of the subject demands. It is also a fact, that a fracture of the elbow-joint, especially in a young person, may pass for a sprain; because it fails to exhibit any marked signs upon a casual inspection: because the pain may be slight and the swelling such as to mask, in some measure, the character of the injury. The medical attendant, after examining the arm, has, perhaps, enjoined great care, with a compress bandaged upon the parts, with cooling applications or liniments; and visiting it daily, has been surprised, at the end of four or five weeks, when the swelling has subsided, to find an unusual stiffness of the joint: in fact, an impossibility of flexion or extension, and, what is of more importance, a hard prominence in the bend of the elbow, suggestive of serious displacement. Such is the history of frequently recurring cases of injury to the elbow-joint; resulting, not from a want of ostensible care or solicitude on the part of the surgeon, but of an omission of one single expedient in treatment, presently to be mentioned, and for the want of which, deformity is imminent; although I incline to the belief that in a majority even of these cases, a tolerably good joint is established in a young person after a lapse of years. I am speaking of the simple, and not the compound fractures or dislocations of this joint, which are very serious injuries. Cases may also happen where the elbow is so excessively swollen, before the surgeon is called, that it may be proper to wait for the swelling to subside before applying the necessary apparatus; but even here the inflammation subsides more readily if the elbow can be properly set, and the very large majority of cases are not of this character. The rule I would enjoin upon you is the following:

Ascertain if the olecranon is broken, which can be done with comparative ease, as it lies near the surface; this injury requires a special treatment. In all the other injuries of the elbow-joint, whether you are able to make an exact diagnosis or are wholly unable to do so on account of the swelling, *treat them as though the forearm had been dislocated backward, and secure the arm at about right angles to an inside angular splint.* The propriety of this measure will not be doubted with regard to the more common dislocations of the arm. The very rare instances of the radius dislocated forward, or the all but impossible forward dislocation of the ulna alone, would doubtless declare themselves, and the bones would be replaced during the manipulation. Practically speaking, they are so rare that they need not be taken into account. But among the fractures, the transverse fracture of the lower end of the humerus; the T fracture into the joint; the fracture of the inner or outer condyle separately; the comparatively rare fracture of the coronoid process of the ulna; or of

the radius or ulna near the joint, are all properly treated by the expedient above described; while the common injuries of the lower end of the humerus, including the fracture of the internal condyle into the joint, in most cases peremptorily demand it. In these cases, it is somewhat difficult or impossible to make an accurate diagnosis; but the above treatment covers the whole of them and does harm to none, while it is the omission of it, as I believe, that directly leads to deformity in a large proportion of them. In a case of this sort, my advice is as follows:

Always etherize, and avoid any painful examination whatever until the patient is fully etherized. In procuring the ether, I always provide, also, an internal angular splint, knowing that the chances are ten to one that it will be required. The patient being now etherized, the character of the injury is determined as far as may be without unnecessary harm from manipulation of the parts, and the elbow being placed at right angles, the wrist is drawn forward, while the humerus is being pushed backward at the elbow, precisely as if a backward dislocation was being reduced. In this position it is forcibly maintained while the fragments are adjusted as far as may be, and an internal right angular splint, padded by a folded towel, is applied by an assistant. To this the arm and forearm are now secured, the friction of the bandage of the forearm being relied on to prevent any backward displacement in the elbow. I need not say that a bandage is never to be applied before putting on the splint. An outside straight splint may also be secured to the forearm, if thought necessary. A few inches above and below the elbow may be left uncovered for cooling applications and especially leeches, if the swelling or superficial congestion make it advisable.

If the olecranon alone be fractured, a more or less straight position is usually advised. Do not suppose that because the olecranon is fractured, it is drawn up the arm by the triceps muscle, as indicated in the plates. On the contrary, it is generally retained pretty nearly in its place by the lateral ligaments. A member of the class once asked me, "What if the olecranon and internal condyle be both fractured?" In reply, I should say, wait until it occurs. A semi-flexed position might then be a compromise between a widened crack of the ulna and the far more serious deformity resulting from a displacement of the fragments of the humerus for the want of a right-angled flexion. But in inventing an injury of such possible occurrence, do not lose sight, in the very frequently recurring fracture of the condyles of the humerus, of the absolute importance of drawing the arm forward at right angles, and confining it in this position by an internal angular splint. It is the tendency to backward displacement of the forearm that commonly leads to deformity in those cases.

Now let us suppose that a fracture of the elbow-joint has been overlooked, and the arm placed in a sling, as above described; or that a simple bandage has been applied to it, perhaps with leeches and cooling applications, and that everything but the proper thing has been done, or, indeed, that the injury has been so severe as necessarily to entail a very limited motion of the joint at the expiration of perhaps four to six weeks. Consult the books upon the subject, and you will there find that it is

necesary, after this interval, to commence what is called *passive motion*, which is generally of a pretty active character. I hold this teaching to be radically wrong; and that such passive motion, as a rule, besides occasioning the patient excessive pain during the operation, or, if done with ether, a good deal of discomfort afterwards, is productive of more harm than good. It begets active inflammation, and is a serious injury to a part which is under repair, and which nature in her own good time will restore better without than with it. More than this, I believe that the time lost by the necessity of rest during these inflammatory attacks more than counterbalances any time supposed to be gained by pumping the joint, lacerating the bands of recent lymph, compelling the stiffened ligaments to bend, and otherwise doing violence to the still inflamed and tender tissues. I speak now of the pain and inflammation liable to be awakened; but there are other injuries which may occasionally happen in passive motion of the elbow-joint. Among them, the most frequent is the separation of the olecranon, especially when that was a part of the original injury. On this account, I have sometimes been careful, when passive motion seemed to be called for, rather to extend than to flex the limb, or at any rate to flex with great caution. The fragments of the humerus, when they have not been properly replaced, resulting in a stiffness which has been considered especially to demand a passive flexion, are unfortunately too solidly united in their new position to allow of their displacement or of material benefit to the arm by doing this violence to the joint. If, when the splint has been removed at the proper interval for repair (from four to six weeks), the arm can be flexed or extended through even a very small arc, not with that deceptive springiness and elasticity due to the elasticity of the ligaments, but in a way to satisfy the surgeon that the cartilages are sliding one upon the other, however little, my rule is to leave the rest to nature, with entire confidence in the result; allowing the patient to take off his splint daily, and as he pleases; to flex and extend it as the pain and tenderness may allow him, encouraging him in his attempts to reach his forehead with his hand. I have also often advised a patient to bore holes in a soft board with a small gimlet, to increase the power of rotation. But if the cartilages do not slide through even a small arc, and motion is restricted, elastic and springy, owing to bony deformity, so much the worse for the patient, and so much the longer and less perfect the recovery. I do not believe you can accelerate it by passive motion, as the term is usually understood; you give the patient a good deal of suffering and the joint a good deal of inflammation. If these views of passive motion are correct, the teaching of the books should be received with considerable qualification

. . . Exactly how far these remarks on passive motion apply to the knee and other joints and injuries, I will not attempt here to define, but can only say that I have seen more harm than good arise from forcible flexion of the knee after rheumatism and after fracture of the shaft of the femur. In simple fractures of the elbow, except of the olecranon, these remarks may be summed up as follows:—always etherize the patient, go through the motions of reducing a backward dislocation of the forearm, and apply an internal angular splint. When there is bony deformity or projecting callus, passive motion does harm; and when the bones are in place and under supervision, it is unnecessary.

Meteorology at St. Louis.

METEOROLOGICAL OBSERVATIONS AT ST. LOUIS, MO.

By A. WISLIZENUS, M.D.

The following observations of daily temperature in St. Louis are made with a MAXIMUM and MINIMUM thermometer (of Green, N. Y.). The daily minimum occurs generally in the night, the maximum about 3 P. M. The monthly mean of the daily minima and maxima, added and divided by 2, gives a quite reliable mean of the monthly temperature.

THERMOMETER FAHRENHEIT, 1868.

	JULY.			AUGUST.	
Day of Month.	Minimum.	Maximum.	Day of Month.	Minimum.	Maximum.
1	70.5	91.5	1	75.0	92.0
2	73.5	95.5	2	72.0	88.5
3	73.0	98.0	3	68.0	85.5
4	75.5	100.5	4	64.0	84.5
5	71.5	97.0	5	64.5	89.5
6	72.0	97.0	6	67.0	**95.0**
7	73.0	96.5	7	74.0	94.5
8	73.5	91.0	8	65.0	92.5
9	71.5	94.0	9	59.0	83.5
10	73.5	93.5	10	63.5	77.5
11	73.0	93.5	11	67.0	77.0
12	73.5	96.5	12	**56.0**	79.0
13	77.0	100.0	13	59.0	83.5
14	77.5	100.5	14	63.5	85.5
15	74.0	100.0	15	61.5	87.5
16	75.5	99.0	16	66.5	83.5
17	77.0	**101.5**	17	68.5	80.5
18	78.5	**101.5**	18	67.5	77.5
19	74.0	99.5	19	65.5	87.5
20	74.0	95.5	20	61.0	77.5
21	76.5	98.5	21	56.5	79.5
22	76.5	89.5	22	62.5	82.5
23	73.0	81.0	23	63.0	86.5
24	73.0	90.0	24	62.0	84.5
25	**66.0**	85.0	25	61.5	86.5
26	67.5	90.0	26	64.5	91.0
27	67.5	90.5	27	67.0	92.0
28	67.5	94.5	28	69.5	90.5
29	72.0	96.0	29	67.5	81.0
30	74.5	95.5	30	58.5	83.0
31	73.5	95.0	31	65.5	71.0
Means....	73.2	94.8	Means....	64.7	84.8
Monthly Mean...84.0			Monthly Mean...74.7		

REPORT OF ATMOSPHERIC ELECTRICITY, TEMPERATURE, AND HUMIDITY.

BASED ON DAILY OBSERVATIONS at 6, 9, 12, 3, 6, AND 9 O'CLOCK, FROM MORNING TILL NIGHT, AT ST. LOUIS, MO.

1.—*Monthly Mean of Positive Atmospheric Electricity.*

Year	Month.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.	Mean in 8 years.	No. of Thunder Storms.	Prevailing Winds.
1868	July.	0.3	0.3	0 4	0.6	1.0	0.6	0.5	2.4	9	SE., S., NE.
1868	Aug.	0.3	0.3	0.3	0.4	1.0	0.2	0.4	3.4	6	SE., SW.

2.—*Monthly Mean of Temperature, Fahrenheit.*

Year.	Month.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.
1868.	July.	78.9	88.3	93.4	95.0	90.0	82.6	88.0
1868.	August.	68.7	76.9	79.9	84.1	79.9	73.5	77.2

3.—*Monthly Mean of Relative Humidity.*

1868.	July.	79.4	61.4	50.0	47.1	56.6	75.5	61.7
1868.	August.	80.1	63.6	51.4	47.9	56.8	70.9	61.8

The mean temperature of July, 1868, was 84.0; the average for 30 years is 79.0. The mean temperature for August was 74.7; the average for 30 years is 76.5. July was therefore considerably warmer than usual, and August some degrees below the average temperature.

July is generally the hottest month of the year, but the past July surpassed even in that respect, at least to my recollection, all its predecessors. Its mean temperature was 5 degrees higher than the mean average for 30 years. Although the maximum heat on single days was here in the city not so high as we have experienced exceptionally in other years, the month was characterized by a constancy and perseverance of hot and dry weather seldom witnessed. During the whole month we had but 3 days on which the daily maximum of the thermometer fell below 90 degrees; in all the rest it rose constantly above 90, and in 6 days above 100. But

in the surrounding country the heat seems to have been even more excessive than in the city. From Allenton, for instance, in St. Louis county, on the Pacific Railroad, a very accurate meteorological observer, Mr. A. FENDLER, writes me, that on the 18th of July his thermometer reached, in the shade, at its usual place of observation, 109 degrees F., and when exposed on a terrace to the direct rays of the sun, it ran gradually up to 156 5 degrees! No wonder, therefore, that sunstroke, apoplexy, and cases of sudden death were so prevalent in July. The unrelenting heat produced a depression of the nervous system, and a tendency to congestion of the brain, that aggravated also the usual summer diarrhœas of teething children, and thus swelled the obituary list to several hundred per week. But with the return of more moderate temperature in August the mortality decreased again, and the health of the city may now be considered as good as ever at this season of the year.

Both months, July and August, were on the whole unusually dry. In July, only 2.03 inches of rain fell, while the average for 30 years is 4.17 inches. In August, also, up to the 28th, not more than 1.29 inches of rain had fallen, while the usual average is 4.15 inches. But from the 28th to the 31st of August, frequent thunderstorms and continued rains brought down from the clouds 7.24 inches more, so that the whole quantity of rain in August amounts to 8.53 inches. The quantity of rain that has fallen in the last days of August, is but one and a half inches less than that in May, June, July, and August (up to 28th), taken altogether.

The positive electricity of the atmosphere, though always low in summer, was in these two months at lower ebb than I have ever observed it before.

Editorial.

THE FUNGOUS ELEMENT IN DISEASE.

Medical science progresses, like many other things, by a circuitous and tedious route. Medical opinion is not pushed in a straight line toward the recognition of truth, but is swayed by gusts from every quarter, making its difficult way by beating and windward-sailing, and not always sailing as close to the wind as it might. But whatever course it may hold, and whatever distance it may be carried off in a wrong direction, after its return on another tack some little progress will have been made toward the goal of knowledge of the true. Therefore, although there may be little immediate value in the fitful starts now and then imparted to pathology in new directions, in which the prevailing researches or the inquiries of bold individual workers may tend,—yet, after the reaction has set in and there has been time to sift the new schemes and systems propounded, it will be found that *some* gain in the right direction has resulted. The novelty of a particular train of thoughts initiated from any quarter is certain to attract a number of enthusiastic followers, and, if it present any reasonable aspects at all, insures its thorough elaboration as far as the state of the auxiliary sciences at the time will admit; but that very novelty will in due time call forth the opposition of the conservative element of the profession and establish the necessary reaction. When the contest is over, medical opinion will have made a step in advance.

Considerations like these impel us to look favorably and with something like hopeful expectation upon the numerous recent professed discoveries of microscopic organisms as elements of disease, and the increasing tendency to attribute to them an etiological importance of no ordinary character. In all parts of the world fungi are tracked in their connection with diseases especially of the infectious class, and announced as direct causes of the same. The doctrine of the organic origin of disease has long been preached theoretically, and is becoming more and more universally accepted; but facts hitherto were wanting. No little caution is required to sift the pretended facts now put forward with so much confidence. And yet the credulity with which they are received, in spite of serious considerations against them, is most incredible. The multiplicity of these discoveries is appalling. There is hardly a disease of the general system which is not ascribed to an offending fungus. There is no deny-

ing that pathology is seriously invaded by these fungi, but we hope a little fermentation will do it no harm, and the great stir this question is making will save it from injury by mould.—What a chance there will be for system-mongers!

The science of mycology, as it stands, is quite young, and by no means free from doubtful points and perplexing obscurities. It is not long since the doctrine has been sufficiently established that putrefaction is essentially dependent on the growth of microscopic plants and animals; not long since the intimate relation of these organisms with fermentation has been confirmed; nor is it many years since the metamorphoses and alternations in the development of the lower fungi have been studied. There are as yet comparatively few students of this speciality, and the medical profession—even the histologists and pathologists—can not be said to be overstocked with mycological lore. Hence the utterly helpless, passive acquiescence with which the said "discoveries" have been received. The few who have devoted attention to the details of this miniature parasitic flora in man, have done so more especially in connection with skin diseases of parasitic origin, and the results of these studies, though of great special importance, had no essential bearing on pathology in general. During several years, however, we are hearing from different observers who profess to have detected fungi inhabiting the blood, and various organs and tissues, in connection with disease. And if these investigations prove correct, they will open a new chapter in pathology and a new field of research the extent of which it is difficult to survey. Unfortunately, an examination of these statements impresses us strongly that more morbific cryptogams have been invented than discovered, and still more have been mistaken, both as to their botanical diagnosis and their relations to disease.

In its bearing on general science the science of mycology has a history marked by strife, and battles, and victories of no mean import. The first of these is the abolition of the doctrine of spontaneous generation, which was at one time almost universally accepted, and in the seventeenth century allowed even vertebrate animals, eels, frogs, mice, etc., to be "generated" without ancestral lineage. About the middle of that century, however, the existence of such parvenus without descent was called in question by REDI, an Italian, who proved the maggots upon putrescent meat to be the larvæ of flies, and that their development could be precluded by preventing flies from depositing their eggs on the meat. The identical line of proof has been pursued against the spontaneous origin of microscopic organisms, and has led to the researches and final arguments of PASTEUR, who proved within the present decennium that the development of microscopical animals and plants can be effectually prevented by the absolute exclusion from organic solutions of the germs of these organisms, which are everywhere present in the air."*

*The results of certain experiments performed by Professor JEFFRIES WYMAN, of Cambridge, Mass., are often adduced as arguments for the doctrine of equivocal generation, and as opposed to the conclusions of PASTEUR. In reality there is nothing in them proving the latter erroneous; at best they only demonstrate the wonderful resistance of these low organisms against even the temperature of boiling water.

The second victory of this line of study was the demonstration of a sort of alternate generation,—comparable with the metamorphoses and alternate generations of invertebrate animals,—in the lower orders of fungi. This discovery, though more purely botanical or phyto-physiological, has yet a powerful indirect bearing upon many prominent questions in medical philosophy, through means of the third grand achievement of mycology,—the discovery of the relations which obtain between the growth of fungi and the processes of fermentation and putrefaction. The opinion long ago expressed by CAGNIARD DE LATOUR and SCHWANN, that alcoholic fermentation in saccharine fluids is an effect of the vegetation of yeast, at first met with little favor at the hands of chemists, but has been at last verified by the brilliant labors of PASTEUR and HOFFMANN. This part of the question is now accepted by all authorities as settled, even while there is still controversy as to the botanical status of the yeast plant; some, as SCHWANN, PASTEUR, DE BARY, holding that the *Hormiscium* or *Cryptococcus* is an organism sui generis, and others, *e. g.*, BAIL, BERKELEY, HOFFMANN, HALLIER, contending that the yeast fungi are but stages of development, especially spore-formations, of various mould-fungi with different forms of aerial fructification. Putrefaction has in like manner been referred to the growth of fungi, *i. e.*, it has been shown to be impossible without the presence of certain microscopic organisms, among which are included however those doubtful forms (bacteria, vibriones, etc.) which seem to bridge the chasm between the animal and vegetable kingdoms—the "*Schizomycetae*" of NAEGELI.

We have permitted ourselves to dilate upon the just title to consideration of the manifold announcements of morbific cryptogams; but we are still far from thinking that they should be accepted as facts, before they have been submitted to the test of time and the scrutiny of experts in that science to whose domain they belong. For it is not to be overlooked that a great many,—numerically perhaps the majority,—of the fungi reported as causes of disease have been described by investigators who have no special claim to the title of botanists; and that at the same time the greatest authorities in botany reject nearly all of them as fallacious and illusory. On the authority of one of the first botanists of the United States, we can state that experts generally, both in this country and in Europe, utterly discredit the existence, for instance, of Prof. SALISBURY's fungi, and treat them as the inventions of fancy. The professed results of Prof. HALLIER's investigations meet with no better faith on the part of botanists. BERKELEY, the chief British mycologist, says (v. *Brit. Med. Jour.*, May 23, 1868): "I do not believe in HALLIER's views of the connection of cholera with parasites on rice. . . . I believe HALLIER's notions to be entirely theoretical." A celebrated German botanist, perhaps the ablest student of cryptogamic vegetation, and who has most thoroughly studied the metamorphoses and alternate evolutions of fungi, expresses himself (in a private letter) even more severely in reference to HALLIER's publications: " . . . I can assure you," he says, "that I have learned to produce HALLIER's cholera-cysts at any time by the ounce. They are simply the long known so-called

gemmæ of *mucor racemosus*, the contents of which abound in oil, hence are filled with globular drops of oil; these oil-drops are HALLIER'S cholera spores! All this is partly based upon personal inspection of HALLIER'S preparations. . . . THOMÉ'S *cylindrotaenium choleræ* also belongs to this category, as well as SALISBURY'S ague fungus or alga."

Especially the last named of these authors has blessed us with a shower of fungi, the existence of which is becoming more doubtful with every fresh addition. While the modern researches of botanists are tending continually to diminish the number of species hitherto described, by showing many of them to be forms or stages only of others,* Prof. SALISBURY is increasing the list at the rate of about one a month; and his descriptions do not by any means satisfy the most reasonable demands of science in regard to either microscopical or botanical diagnosis.

We refrain from referring to the discoveries of others, as those we instanced are the most numerous and the most loudly professed ("loud talk and shallow faith always run together")—and our object was merely to point out that, *while our theoretical reasons for suspecting a cryptogamic origin in certain (zymotic) diseases are very strong, the question of fact is far from being solved by the evidence yet presented.*

LETTER FROM PROF. LE CONTE ON DR. WATTERS' DOCTRINES OF LIFE.

COLUMBIA, So. CA., August 31, 1868.

To the Editors of the St. Louis Medical and Surgical Journal:

Gentlemen,—I received a few days ago a copy of an article by Dr. WATTERS, published in your Journal, entitled "Doctrines of Life," in which he gives a history of the introduction into physiological science of the idea that *life-force is generated by decay*, and claims for himself priority in the origination of the idea. A careful perusal of his paper has convinced me that *his claim is just.*

Until the reception of the copy of the paper sent me, I was entirely unaware of the existence either of his thesis or of his subsequent publications in your Journal. I was previously aware, however, that I had been anticipated in the *general idea* by Prof. JOSEPH HENRY. I can not, and do not, therefore, claim any priority in the origination of this important idea. If I deserve any credit in connection with this subject, it is for having first clearly apprehended the idea so as to apply it in a definite manner in the explanation of many phenomena of vegetable and animal life, and for having shown a real conservation of force in these

*This is illustrated by a remark of Dr. TILBURY FOX, of London, a most ardent student of the subject, and an acknowledged authority, who writes to us: "I am re-engaged in my parasitic researches, and am more than ever convinced that the fungi found on or within man are of one species."

phenomena—in a word, for having taken the idea out of the realm of probable speculation, and brought it within the realm of true inductive science.

Very respectfully yours,

JOSEPH LE CONTE,

Prof. Chem. and Geol., So. Ca. Univ.

MEDICAL BIBLIOGRAPHY.

Literary productions have been comparatively scarce during the present season, especially in this country; there have been few issues, and, thus far, few announcements. Yet we note among new publications some of great value.

Messrs. Lindsay & Blakiston have made arrangements to act as agents in the United States for the publications of the New Sydenham Society, receiving subscriptions for 1868, as well as for any previous year. It is stated, that the New Sydenham Society has acquired the sole right to continue the translation of TROUSSEAU'S *Clinical Medicine*.—The same firm, we are glad to learn, will henceforth issue regular translations of BOUCHARDAT'S *Annual of Therapeutics*.

The house of Germer Baillière, Paris, have issued *a Biography of Van Helmont*, embracing a critical history of his works and of the influence of his doctrines on the science and practice of medicine, by Prof. Dr. J. A. MANDON, of Limoges, 1 vol., 4to. Another biography of Van Helmont has been written by W. ROMMELAERE, and published at Brussels, 1868, 4to. Both are considered of great merit by a critic in the *Gaz. Médicale*.

Anatomy and Physiology.—A new treatise on Anatomy—"*The Structure of the Human Body*, with especial reference to its morphological and physiological import"—by the able anatomist of Berne, Prof. AEBY, promises to be a work of great importance; it is to extend over about 800 pages, with numerous wood-cuts, and was to appear in June, Vogel, Leipzig. The *Anatomy and Histology of the Eye*, by Prof. METZ, which we announced in our May number, has been sent to us.

Prof. PFLUEGER, of Bonn, is editing a new periodical—"*Archiv für die ges. Physiologie*"—which counts among its collaborators nearly all German and some foreign physiologists of note, a bright array of names. Profs. HEIDENHAIN and LUDWIG have published the investigations of their respective Physiological Institutes at Breslau and Leipzig. Lea, of Philadelphia, announces a reprint of MARSHALL'S *Outlines of Physiology*, an extensive work which has received very favorable comments from the British press. We note the following more important monographs: Prof. M. SCHIFF (of Florence), *Leçons sur la Physiologie de la Digestion*, edited by Levier; 2 vols. gr. 8vo., Hirschwald, Berlin. FLINT (Prof. Austin, Jr., of N. Y.), Experimental researches on a *New Function of the Liver*, consisting in the separation of cholesterine from the blood and

its elimination as *stercorine* (in French lang.), 8vo., Germer Baillière. Paris. HELMHOLTZ' treatise on the *Physiological Theory of Music* has been translated into French.

Practical Medicine.—AITKEN'S *Science and Practice of Medicine* is out in a fifth enlarged edition (offered by Lippincott & Co., Philad., at $12 00); a second American edition is in press, Lindsay & Blakiston. The second part of LEBERT's work on *Medical Practice* has appeared. Appleton & Co., N. Y., have in press a translation of the seventh German edition of v. NIEMEYER's celebrated textbook of *Practical Medicine*, by Drs. Humphreys and Hackley;—so tardy an acknowledgment of its merit! A French translation is also in process of publication, Chamerot et Lauwereyns, Paris.

DURAND-FARDEL, *Traité pratique des maladies chroniques*, in 2 vols. 8vo., Germer Baillière, Paris, is probably a work of merit. On Diseases of Children three new works are announced: by Prof. ELLIOT, of New York (D. Appleton & Co., N. Y.); by J. LEWIS SMITH, M.D., Professor of Morbid Anatomy in Bellevue Hospital (Lea, Philad.): and by THOS. HILLIER, M.D., F.R.C.P., Phys. to the Hosp. for Sick Children, London (James Walton); the latter clinical treatise is republished in this country by Lindsay & Blakiston. Prof. HENOCH, of Berlin, has produced a new series of his *Contributions to Pædiatrics*, 8vo., pp. 434, Hirschwald.

The first volume of Dr. PAUL NIEMEYER's "*Handbook of theoretical and clinical Percussion and Auscultation*, prepared from a historical and critical standpoint," which we advertised some time ago, has appeared, Enke, Erlangen; thus far we have seen but one critique in German periodicals,—a very favorable one. Another work of incontestable value, issued from the German press, is that of WUNDERLICH. "The Condition of the *Temperature in Disease*; a guide to *Thermometry in Diseases*, and its use for the recognition of the laws of diseases, as well as a more exact diagnosis and prognosis," illustrated by 40 wood-cuts and 7 plates; O. Wigand, Leipzig. The book will take rank among classical literature, its author being the highest authority on the subject; for to WUNDERLICH indubitably belongs the credit of having first introduced classical thermometry into general practice. BERGERET, *on the Urine*, embracing its physiological chemistry and microscopy, and the nosological, pathological, and therapeutical indications it furnishes, is advertised by Germer Baillière, pp. 292, 8vo.

Dr. MORELL MACKENZIE, whose estimable work on the laryngoscope is just out in a second edition, has written a small illustrated volume on *Hoarseness, Loss of Voice, and Stridulous Breathing*, in relation to nervo-muscular affections of the larynx. Churchill & Sons, London. Lindsay & Blakiston are preparing a work by Dr. LIONEL S. BEALE, the eminent histologist, Professor of Physiology, etc., in King's College, London, on the *Diseases of the Liver and their Treatment*. A new edition of the same author's book on *Kidney Diseases, Urinary Deposits and Calculi* has been advertised for some time. Dr. T. GRAINGER STEWART, of Edinburgh, is writing a work on *Bright's Diseases of the Kidney*, to be published in October, by A. & C. Black, Edinburgh.

The following new works also appear worthy of note: CAZENAVE (Dr. ALPHÉE) General Pathology of *Diseases of the Skin*, Daffis. Paris. CORNILLIAC, Chronological and historical researches on the origin and propagation of *Yellow Fever on the Antilles*, 2 vols. 8vo., Baillière et fils, Paris. VIRCHOW, "*Ueber den Hungertyphus*," and some allied forms of disease, Hirschwald, Berlin. BRÉBANT, *Epidemic Cholera* considered as a personal (?) morbid affection; its pathological physiology and rational therapeutics, Delahaye, Paris.

Surgery.—There are few announcements of any importance in this branch. Prof. RICHARD, Surgeon to Beaujon Hospital, Paris, has written an "Everyday Practice of Surgery"—(*pratique journalière de la chirurgie*)—of 703 pp. 8vo. with 215 original illustrations, Germer Baillière. HOLMES' work on the *Surgical Diseases of Children* has been issued. Of GIRALDÈS work on the same subject, the 3d fasciculus has appeared. Also, SPENDER, Manual of the pathology and treatment of *Ulcers and Cutaneous Diseases of the Lower Limbs*, Churchill, London.

Dr. AUDRIEN, a Paris dentist, is preparing a work entitled "*Complete Treatise on Stomatology*," comprising the anatomy, physiology, pathology, therapeutics, hygiene, and prothesis of the mouth.—the first part (1 vol.) of which has been issued by L. Leclerc, Paris.

In Ophthalmology we note: GALEZOWSKI, on the *Diagnosis of Diseases of the Eye by Retinal Chromatoscopy*, preceded by a study on the physical and physiological laws of colors; illustrated, Baillière et fils.

Obstetrics. Diseases of Women.—Lea, Philad., has published a second, revised and improved edition of HODGE, *On Diseases peculiar to Women*. Of special monographs we note: LEBRETON, on the different varieties of *Hysterical Paralysis*, 8vo., pp. 156, Delahaye, Paris,—GANTILLON on *Uterine Catarrh* and its treatment by intra-uterine injections, Assilin, Paris,—and COHNSTEIN, Contributions to the *Treatment of Chronic Metritis*, 8vo., pp. 104, Hirschwald, Berlin. A work by EMMETT on *Vesico-Vaginal Fistula* is to appear in September. Wm. Wood & Co., New York.

Therapeutics, Toxicology, etc.—A twelfth edition of ELLIS' *Medical Formulary* is about to be issued by Lea, Philad.—VIVENOT JR. has collected his researches on the physiological actions and therapeutical uses of *Compressed Air*, in a large volume of 638 pp., Erlangen. Gieseke & Devrient, of Leipzig, have in preparation a new work on *Electro-Therapeutics* by Dr. R. BRENNER, embracing extensive researches and observations.

St. Louis College of Pharmacy.—We have received the announcement of the fourth annual course of instruction in the St. Louis College of Pharmacy, which will commence on the 1st of October, and embrace lectures on Materia Medica, Medical Botany, Theoretical and Practical Pharmacy, and Chemistry. We will improve the opportunity by calling the earnest attention of *physicians* to the necessity of countenancing and fostering schools of pharmacy, if they would have *pharmaceutists* to

assist them in the practice of their profession, and not *drug-venders.* It is the personal interest of every physician, that the person employed in compounding his prescriptions be well qualified; and it is the general interest of the medical profession, that pharmaceutists also recognize themselves members of a scientific body, the only access to which is a certain measure of education. Among us, the standard assuredly is so low as to debar no one at all fitted for the apothecary's duties. When we consider how much skill and information is required of a candidate in Great Britain and on the continent of Europe, before he is admitted to the practice of pharmacy, we feel it a sad and humiliating thing that it is *necessary* to urge the medical profession in this country to interest themselves in schools of pharmacy by lending them their influence and countenance.

It is scarcely called for to address the same remarks to our druggists and apothecaries generally; for if physicians will but do their duty in this particular, the former will soon find it in their own interest to employ only such persons as possess the requisite amount of education in their art, the measure and the evidence of which will be a diploma of some college of pharmacy.

St. Louis Medical College.—We are requested to call the attention of students to the course of clinical instruction in this institution. During the month of September, Clinical Lectures will be delivered in all the hospitals connected with the College, viz.: the St. Louis (or Sisters'), the City, and the Marine Hospitals, at 11 A. M. daily, by Profs. HODGEN, ALLEYNE, SMITH, and GREGORY. The particulars can be learned at the Sisters' Hospital, or in the College building.

The regular course of lectures will begin on Monday, the 12th of October.

BOOKS AND PAMPHLETS RECEIVED.

Manual of the RENSSELAER COUNTY MEDICAL SOCIETY. Troy, N. Y. 1868. 8vo. pamphlet.

STORER, The Present Problems in Abdominal Section; illustrated by a successful case of Double Ovariotomy. (From the *Canada Medical Journal.*) S. l. & a. 8vo. pamphlet, pp. 12.

WHITE, Dental Materia Medica. Philad.: S. S. White. 1866. 12mo.

COLES, Progressive Locomotor Ataxia. S. l. & a. 8vo. pamph., pp. 48.

METZ, The Anatomy and Histology of the Human Eye. Philadelphia: Office *Med. and Surg. Reporter.* 1868. 8vo.

DUNLAP, Ovariotomy; a paper read before the Ohio State Medical Society. Cincinnati. 1868. 8vo. pamphlet, pp. 22.

Transactions of the MEDICAL SOCIETY of the State of PENNSYLVANIA at its 19th Annual Session. (5th series, part 1.) Philad., 1868. 8vo.

MOOS, *Ueber das subjective Hören wirklicher musikalischer Töne.* (From VIRCHOW'S *Archiv*, vol. XXXIX.) 8vo. pamphlet.

Erratum.—The reader will please correct the reference in the note on page 414. "Plate i, figure 2" should read "figure 11." In the extra copies of Dr. BOISLINIERE'S article, the correction has been made.

MORTUARY STATISTICS.

Number of Deaths in the City of St. Louis, 1868.

DURING THE WEEK	MALES.	FEMALES.	Total.	STILL-BORN.*	UNDER 5 YEARS.
Ending June 26th	36	22	**58**	11	31
" July 3d	50	47	**97**	6	54
" " 10th	79	55	**134**	8	88
" " 17th	118	85	**203**	14	120
" " 24th	179	92	**271**	10	154
" " 31st	89	77	**166**	7	108
" Aug. 7th	88	80	**168**	7	128
" " 14th	91	72	**163**	11	106
" " 21st	70	69	**139**	7	84
" " 28th	87	57	**144**	6	97

Total No. of Deaths in June.....310— Death Rate†.....15.89
" " " July.....818— " " 40.24
" " " August.....680— " " 33.18

* Still-born are not included in list of deaths.

† The ratio of deaths per annum per mille of inhabitants. The number of inhabitants not being exactly known and constantly varying, these figures are approximative only, based on the official estimates of the population.

THE SAINT LOUIS

Medical and Surgical Journal.

NOVEMBER 10, 1868.

Original Communications.

CLINICAL LECTURE ON SYPHILIS.

Delivered at the St. Louis (Sisters') Hospital, by E. H. GREGORY, M.D., Adjunct Professor of Surgery in the St. Louis Medical College.

[Reported by W. B. OUTTEN, M.D.]

GENTLEMEN :—

Now that we have disposed of chancre, its condition, diagnosis, and local treatment, we next invite your attention to the more general manifestations of syphilis.

General syphilis and constitutional syphilis are current and accepted expressions, and would seem to infer the probable existence of local syphilis. Such, however, is not the teaching of the present day. With quite as much propriety might we speak of general small pox or constitutional measles. To be sure, the latter affections have but one incubation, and the primary local signs of disease are preceded by marked constitutional disturbance—fever; whilst the former, syphilis, has several periods of incubation; and often in the second period alone there is observed general disorder antecedent to local trouble. Chancre is

not announced by fever; whereas the syphilodermata, as likewise all local signs of syphilis at a distance from the point of inoculation, are heralded by feelings and tokens of universal involvement of the system; whilst the vaccine sore and the eruptions of small pox, measles, scarlatina, etc., declare the perfection of these diseases, the chancre only makes known the completion of one of the phases of syphilis, secondary affections another, and another; the several phases representing definite transformations through which the poison passes, tending perhaps to its final elimination. Syphilis may, therefore, be called a compound specific affection, in contradistinction to the simpler disorders of the class to which it belongs. There are certain accidents incident to scarlet fever, measles, etc., so-called sequelæ, which represent similar combination and transformation of their specific poison, but they are not so exact and regular in their evolutions as the poisons of syphilis. Another peculiarity: syphilis, like the class of diseases to which it is allied, has its sites of election; no tissue or organ of the body are exempt from its ravages. The skin and its appendages, the mucous membranes, with their extremest ramifications and recesses, the fibrous and osseous tissues, are alike the prey of this most insatiable distemper.

Most of you are familiar with the ordinary symptoms of syphilis. A copper-colored eruption, a sore throat, falling of the hair, engorgement of the glands about the occiput, pains in the bones and joints, or periosteal nodes on the superficial bones, and a general faded and unhealthy look are symptoms constantly observed in this clinic, and we from time to time call your attention to the peculiarities presented by syphilitic signs. These peculiarities we now recount. The color—a dirty brown or bronze, circular shape, or eruption disposed in wheels, the thinness of desquamating scales or thickness of drying scabs. Again: Syphilitic eruptions are persistent, or disappear only to be replaced; or there is a concurrence of blotches, papules,

vesicles, or pustules, and a coincidence of cutaneous and mucous eruptions; for example, erythematous blotches of the fauces and a corresponding affection of the skin, mucous patches and condyloma with papules and pustules on the surface. All this you see so frequently, that a particular description of the disease under consideration is unnecessary.

You must not suppose there is any essential difference between primary and secondary sores, or primary and secondary contagion. Chancre is as much a constitutional sore as a mucous patch, and all that has been written about the accidental conversion of a chancre into a mucous patch is unprofitable. Inoculate a healthy person with the pus of a chancre or the secretion of a mucous patch, and the result is the same. Time, or other circumstances, do diminish the virulence of the poison, but do not change the nature of the virus. Therefore the sores incident to syphilis are chancres at every period of the disease, for a chancre is nothing more than a sore, or ulcer, arising from the inoculation of the syphilitic poison.

The eruptions which represent syphilis in the early period of its existence are superficial; they dry up and disappear, leaving only a stain hehind, scarcely a scar. This is especially true if the primary sore has been a mere erosion, or has originated in a secondary accident. On the other hand, when a chancre is deeply ulcerated and pustules appear early, expect the implication of important organs in the latter periods of the disease. Secondary syphilis, then, is characterized by the diffused but superficial quality of its local manifestation.

If it were possible to stay the progress in this stage, the disease would indeed lose more than half its horrors; the fair body, though stained, would escape mutilation. But such is not our experience; despite treatment, in many cases, however well ordered, another stage is reached; gloom and despondency overtake the spirits; a profound cachexia overwhelms the constitution; racking pains tor-

ture the frame, and ulceration despoils the textures; till, amid distress, deformity, and extreme despair, death, long delayed, becomes a coveted boon.

No mere blush or blotch marks this period of syphilis; complaint is no longer vague, uncertain, fleeting; the time for papules, vesicles, and superficial pustules has passed; now the complaint is fixed, torturing, implacable; now papules become tubercles, resting on firm, deep, and broad foundations; now we have bullæ filled with bloody serum, suppurating deeply, and heaping up black, disgusting, loathsome scabs. One has the sight abridged, becomes partially deaf, loses the sense of smell, suffers from difficult deglutition, and is threatened with suffocation, demanding immediate tracheotomy. The muscles may be torn by convulsions, paralyzed, atrophied, and spoiled by gummy tumors; the tendons may be thickened, indurated, and ossified; the periosteum deformed by nodes, the bones beset by exostoses, distorted by gummatta, and at last become the prey of caries and necrosis. Ghastly ulcers, ragged, deep, advancing and incorrigible, complete the melancholy picture.

We are at this time treating, in this hospital, a young man for epilepsy, connected with syphilis; but a few months ago we gave him mercury for thickening of the pericranium. He now suffers with an intolerable frontal headache, but seems to be improving under large doses of iodide of potassium, with minute portions of corrosive sublimate. We have thought of inserting a seton in the back of the neck. You have seen examples of syphilitic tubercles: gummy tumors found in the muscles, tendons, bones, and brain are rare; but we have had cases in this house. Opportunities for seeing syphilitic iritis, which is marked by the loss of brilliancy, distinctness of texture, sluggishness of pupil, with dark brown or yellowish white masses clustering about, and absence of photophobia, are frequent. You doubtless remember the satisfactory result of the protiodide of mercury in a case shown you a few weeks since.

Other affections of the eyes are frequently observed in connection with syphilis. The man occupying the bed near the north door has syphilitic ozæna. Strictures of the œsophagus are rare; but a few years ago we performed tracheotomy in our ward for syphilitic ulceration of the larynx. A typical case of rupia we saw this morning as we entered the house; the scabs were thick, dark brown, and piled up conically, especially abundant about the face. Once seen, never forgotten. We remember well a case which we saw a few years ago, of shortening of the flexor muscles of the forearm, probably originating in syphilis, in which two or three fingers were closed. The biceps is most frequently atrophied. There is now a man in the 10th ward whose penis is gone to the scrotum, the result of serpiginous ulceration, which has been going on from time to time for three years. He has also an ulcer on the arm which has resisted treatment for several months; but a short time since we tried the actual cautery several times without result. You have heard us inquire anxiously into the history of the case of paraplegia in this ward. The patient denies having had syphilis, but we observe dark brown cicatrices on his legs.

A most interesting and anxious subject of inquiry is the prognosis of syphilis. The disease is so loathsome and protracted, that few opportunities are afforded of watching its progress without treatment, but experience would seem to say that a majority recover; many without treatment specific, without serious symptoms, and without permanent impairment of the constitution.

From the observations of DIDAY there is reason to believe that syphilis, when left to itself, has probably as definite periods of incubation and evolution as other contagious diseases—three weeks the incubation of chancre, six weeks for secondary disease. SIGMUND says: when a chancre heals without induration, and no specific medicines are given, and secondary symptoms do not appear within three months, the patient has nothing to fear. Syphilis is cer-

tainly influenced in its manifestation by specific treatment; constitutional conditions and peculiarities have much to do with the progress of the disease, and these are to be amended and corrected upon common sense principles, apart from special remedies.

In former days mercury was deemed a specific in syphilis, and that without it every case would infallibly go on from bad to worse. Every case may be treated without mercury; many cases do not admit of it at all; but the moderate and judicious use of mercury in many cases removes the existing accident, and renders the patient less liable to relapse.

DIDAY abandoned a series of cases of syphilis to nature, and proved beyond dispute the fact that the disease is susceptible of spontaneous cure. Do not forget this fact; ever remember that, however bad your case, there is a natural tendency to recovery. Regulate carefully and strictly the hygiene of your patient; sustain the powers and correct deviations from health upon general principles, always inspiring hope. Never use mercury in the primary sore, if it is disposed to heal during the first week; never when a chancre is inflamed or phagedenic; never at any period of the disease when your patient is feverish. Mercury does not lessen the chance of secondary symptoms; as a general rule, it is well to wait for secondary symptoms before appealing to the mineral, and then antimonials may cure. The most reliable agent, after all, in the earlier stages of syphilis is mercury, and, as the disease progresses, iodine begins to exercise a therapeutic influence, and in the last stages, a combination of the two becomes most important. At first mercury should be given cautiously, and in small and infrequent doses. Sound the susceptibilities of your patient. Our formulæ are in early periods:

℞	Protiodidi Hydrarg.,	℈i
	Ext. Conii,	ʒi.

Misce. Fiant pill. No. xxx.

S.—One pill a day for a time, gradually increasing to three pills daily.

℞ Hydrarg. cum Creta, ℈ij
Quiniæ Sulph., ℈i.
Misce. Fiant pill. No. xx.
S.—One pill three times daily.

The bichloride of mercury in doses of one-sixteenth to one-twelfth of a grain, three times daily, answers well in many cases; where there is a tendency to diarrhœa, combine opium with the mercury.

Donovan's solution is a valuable preparation, given in from five to eight drops three times daily after meals. Mercury may sometimes be beneficially administered by the rectum, consisting of half a drachm of mercurial ointment, made stiff with wax or tallow, and repeated twice a day until the gums are slightly affected. When the system is much dilapidated, mercurialization is best attained by fumigation. All that is necessary is a blanket carefully secured about the neck; the patient, completely nude, is seated in a willow chair, beneath which is placed a shallow pan half filled with water, into which is put a brick heated to redness, and upon which is placed a scruple of calomel. In five or ten minutes profuse perspiration is induced; the calomel is evaporated in fifteen or twenty minutes, after which the patient is enveloped in the blanket and placed in bed. If the patient's strength is fair, every night is not too often for the repetition of the baths, or from one to three times a week may be sufficient. During the time, and at all times, the patient should wear flannel next the skin. The baths may be continued from four to five weeks.

The topical application of mercury is proper when the disease is of long standing; when the surface is covered with sores; when there is deep involvement of the bones; or when the system is exhausted by suffering or long courses of the mineral by the mouth.

Mercury may also be given by inunction, from half a drachm to a drachm, rubbed upon the inner sides of the arms and thighs once a day, until the constitutional effects of the medicine become apparent by the state of the gums, breath, and saliva.

Simple and medicated baths are most useful, particularly beneficial in rupial ulcers, rheumatic pains of bones and joints. A common salt hot bath, or one containing carbonate of soda or potassa, are most excellent detergents in the foul ulcers so common in the advanced stages of syphilis.

Most of you are familiar with this formula:

℞	Potass. Iodidi,	ʒvii
	Bichloridi Hydrarg.,	gr. iij—v
	Ext. Conii,	ʒi
	Syrup. Stillingiæ,	ʒij
	Syrup. Sarsap. comp.,	ʒij
	Tinct. Cinchonæ,	ʒiij.

Misce. S.—Teaspoonful three times daily.

This combination we use in the latter stages of the disease. It is well to give the dose with a tablespoonful of water, and one or two hours after meals.

There are certain rules of treatment applicable to all local affections. Thus the surgeon does not hesitate to remove a dead bone, open abscesses, divide fasciæ, trim off ragged, undermined edges of ulcer, placing them in a suitable condition for speedy separation. Cleanliness is important. Fetor is allayed by carbolic acid, or the free use of chlorine preparations. When much inflammation is present, emollients are important. Touching weak sores or phagedenic sores with nitrate of silver or nitric acid at first once a day, and subsequently every third or fourth day, according to the condition and progress of the sore. The potassio-tartrate of iron is not to be forgotten as a local application to ugly ulcers; one drachm to the ounce of water. Dust ulcers with calomel or subnitrate of bismuth.

For syphilitic affections of the nose we rely mainly on the chloride of zinc, one to three grains to the ounce of water, as a local application. The involved parts should be frequently cleansed. The nasal douche is valuable. Powder used as snuff, as the subnitrate of bismuth and tannic acid, may be used once or twice daily. I have touched with the liquid nitrate of mercury a deep ulcer in the naso-pharyngeal space. After three days, if there is no improvement,

it will be proper to reapply the escharotic; meanwhile, we will use the diluted tincture of iodine. A solution of the permanganate of potassa, two to five grains to the ounce, is a useful remedy for troublesome syphilitic affections of the nasal passages.

The remedy for syphilitic iritis is mercury. Be most earnest and assiduous, ever mindful of the importance of the organ involved. You have observed the effect of mercury and iodide of potassium in these cases; the turpentine of Carmichael will not do.

For the affections of the bones and periosteum, use the iodide of potassium; severe suffering is often relieved as by magic, the iodide of potassium proving a most potent anoydne. Leeches, blisters, and the tinct. of iodine are important applications to nodes. Sometimes the pain and tension of a node may be promptly relieved by subcutaneous incision, effected by a delicate bistoury; necrosed bones must be removed, and carious bone scraped and its surface dusted with red precipitate; diffused hypertrophy of bone usually disappears under constitutional treatment. Exostoses, when free from mechanical inconvenience, are not to be interfered with.

Syphilitic sarcocele is a common disorder, known by its history, by its implicating especially the body of the testicle, and by its extreme indolence; it is to be cured by constitutional measures. We are at this time treating a case most satisfactorily with bichloride of mercury and iodide of potassium. The prescription we have already given.

Condylomatous growths are most constant symptoms. The same general treatment is applicable here as for sarcocele. The chromic acid applied once in a day is the best agent to destroy the tumors; in the interval of the applications the surfaces should be covered with calomel, subnitrate of bismuth, or the carbonate of zinc. The parts should be frequently cleansed with chlorinated soda.

We show you this morning a case of congenital syphilis, and call your attention especially to the teeth. Observe

the central upper incisors; the characteristic crescentic notch; see, the teeth are uncommonly short and narrow, and the enamel has a dirty, dingy appearance. The copper-colored eruption is seen about the buttock, scrotum, and soles of the feet. The eye frequently suffers in inherited syphilis; corneitis and iritis are rare, however, before the fifth month.

It is generally believed this disease may be communicated by either parent—by the father through the semen, by the mother during the progress of pregnancy. Much uncertainty pertains to this subject. A patient of mine consulted me recently about the propriety of matrimony; as he was free from syphilitic manifestations, I advised him to marry, and if at any time sores returned, to avoid inoculating his wife; that the probabilities were, that the disease was not transmissible through the semen.

The treatment of congenital syphilis is like that for the acquired. The most approved hygienic measures, flannel next the skin, high, dry, airy situations, and the best artificial food possible. When there is much emaciation, cod-liver oil is a most valuable adjunct to mercury, which latter displays its effects most advantageously in hereditary syphilis. In this case we will give half a grain of mercury and chalk three times daily, till the disease disappears. The bichloride is a valuable mercurial in these cases, in doses varying from the fortieth to the fiftieth of a grain three times a day, dissolved in a few drops of Huxham's tincture of bark. Where there is much gastro-intestinal irritation, the mercurial inunction would be best, say a scruple rubbed upon the belly—removing temporarily the flannel bandage—once a day till all evidence of the disease has disappeared.

*CASES ILLUSTRATING THE USE OF THE BROMIDE OF POTASSIUM IN DRACHM DOSES.**

By DANIEL G. BURR, M.D., Assist. Physician to the New York State Inebriate Asylum, Binghampton, N. Y.

CASE 1. J. W., æt. 32; merchant; previous health good; has had an attack of delirium tremens and one convulsion; has sold liquor for many years, and has been a constant, though moderate, drinker; is a person of full habits, a hard worker and a high liver; of a sanguine temperament; was admitted July 12th.

Present Condition:—Is feeling rather nervous, and fearful that he will not sleep through the night. Gave Potass. Bromid. ℥i at 10, 1, 4, and 9 o'clock.

13th.—Passed a very quiet night; kept in bed all day on account of a dizzy sensation that he experienced when in an erect position; conjunctiva somewhat congested, though not so much so as yesterday; bromide 3 times to-day.

14th.—Is feeling very much better; has been down to his meals; has taken the bromide twice to-day.

15th.—Convalescent.

CASE 2. —— S., æt. 42; has been an army officer; has had delirium tremens and convulsions; his drinking has been constant; was admitted June 17th.

Present Appearance:—Is very much under the effects of liquor; is a person of good constitution, and has the appearance of a high liver. Gave Potass. Bromid. ℥i. Patient went to sleep after taking his medicine, and slept all the afternoon; this sleep was from the effects of the liquor that he had taken; woke up towards evening with considerable nervous prostration, and is fearful that he will not sleep during the night; has taken a drachm of the bromide at 7 and 9, and is to have a dose at 12.

18th.—Passed a very quiet night considering his condition; conjunctiva somewhat congested; surface of skin cold; urine scanty and high colored. Gave Tinct. Capsici and Spir. Æther. Nit., ana ℥i. Has taken the bromide every four hours.

19th.—Appears a little restless: has been about the ward with the other patients; is very nervous: has had the bromide three times to-day.

20th.—Passed a very restless night, sleeping but little; was up and making pseudo-arrangements for his family. Had Potass. Bromid. ℥i

* In the Boston Medical and Surgical Journal, June 4, 1868, Dr. C. B. BRAMAN reported a case of "poisoning by bromide of potassium" (through intense gastric irritation), the remedy being given in twenty grain doses every six hours. In a subsequent number of the same journal, July 16, Dr. BURR, in reply, stated that he was "accustomed to administer the bromide in drachm doses as often as every three hours without the slightest ill effects resulting therefrom." The present report of cases that have occurred at the N. Y. State Inebriate Asylum "within the last three months" is offered in illustration.—ED.

at midnight. Pupils normal; conjunctiva a little congested, not so much as it has been; is midway between delirium and sleep; is to have the bromide every three hours. At 9 A. M. gave Tinct. Capsici and Spir. Nit., ana ℥i. During the forenoon patient dropped to sleep; awoke at dinner time, ate a good dinner, and has slept well all of the afternoon; has taken ℥i of the bromide at 12 o'clock M.

21st.—Has passed a very quiet night, sleeping very soundly, and up to the present time (7 o'clock A. M.) has not awakened.—Awoke at 8 o'clock; has still the delusion that some one is trying to get possession of his property; P. M. came down stairs, appeared himself; has been troubled with a diarrhœa for a day or two previous; has had Potass. Bromid. ℥i three times to-day.

22d.—Convalescent.

CASE 3. W. M., æt. 34; married; by occupation, merchant; no hereditary disease; of good constitution; had one attack of delirium tremens; never had convulsions; his drinking has been regular and constant; general health good; was admitted July 9th.

Present Appearance:—Is decidedly pickled with liquor; face bloated; conjunctiva congested. Gave Potass. Bromid. ℥i to be repeated every three hours.

10th.—Passed the night very quietly, slept some; has had the bromide ℥i three times to-day; patient was rather shaky this A. M., but not so much as I expected to see, considering his condition last night.

11th.—Is able to be about and is convalescent.

CASE 4. J. K. P., æt. 60; married; by occupation a jeweler; no previous disease; no hereditary disease; has had several attacks of delirium tremens; never had convulsions; drinking has been periodical; present health good; his system is saturated with liquor; is of a vigorous sthenic constitution; was admitted July 13th.

Present Appearance:—Is somewhat under the direct influence of liquor. Gave Potass. Bromid. ℥i at 5 and 8 o'clock.

14th.—Is feeling very shaky; nervous prostration is very great indeed; can not hold a glass in his hand, and can hardly brace himself up in bed with his arms; slept very little through the night; slept some this morning; has had the bromide ℥i every 3 hours.

15th.—Improving steadily; slept soundly last night; feels somewhat weak; diet very light; has had the bromide ℥i three times to-day.

16th.—Convalescent.

CASE 5. W. H. P., æt. 30; single; resident of Kentucky; has no hereditary disease; has had one attack of delirium tremens; has had paroxysms of insanity; his drinking has been constant, especially at night, when he could not sleep without it; present health feeble from habits and want of sleep; was admitted August 14th.

Present Condition:—Is dirty, full of whisky, and very sullen; put him to bed, and gave him Potass. Bromid. ℥i at 3 and at 9 o'clock P. M.

15th.—Was very quiet during the night, though he says that he did not sleep any; was called to see him; he imagined that he had been spitting

up blood; has been around the house to-day, and has had occasional hallucinations; complained of some irritability of the stomach; has had the bromide three times to-day.

16th.—Slept well all night; has been around the house to-day; is rapidly recovering; has had Potass. Bromid. ℥i twice to-day.

17th.—Convalescent.

CASE 6. H. McC., æt. 55; married; by occupation a farmer; is of vigorous constitution; general health good; no hereditary disease; never had delirium tremens nor convulsions; his drinking has been constant; was admitted July 19th.

Present Appearance:—Is much under the influence of liquor. Gave Potass. Bromid. ℥i, and sent him to bed.

21st.—Was very restless all night; is up and around the ward; has had bromide ℥i three times to day; this evening begins to show some signs of cerebral disturbance; has some delusions about his garments not fitting him; the night watchman found him, knife in hand, defending himself from imaginary fancy women.

22d.—Very restless all night; does not stay in bed; is very talkative; gave Fl. Ext. Opii gtt. l, of which he took half, and threw the remainder away; knew what it was, and said that he would not be drugged; says that he slept first-rate; imagines that he has left the asylum, and is now somewhere else. Gave Potass. Bromid. ℥i at 8 and 12; continued through the day in a delirious state; at 3 P. M. gave Potass. Bromid. ℥ss, with Fl. Ext. Opii ℥i, after taking which he fell asleep.

23d.—Awoke this A. M. about 6 o'clock, feeling very much better and in his right mind; has had bromide ℥i twice to-day.

24th.—Convalescent.

In the first five of the foregoing cases, the operation of the bromide in quieting the nervousness and inducing sleep was most satisfactory both to the patients and to myself. In cases 2 and 5 particularly, almost every dose of the bromide was followed by a nap, which at first was of short duration, but grew longer and longer, until they declared that "they thought that they could sleep all of the time if they should take the bromide regularly." In case 2 the patient said that he was not susceptible to the hypnotic effects of opium, and that it produced the contrary effects so severe, that he could get no benefit from its use. I find that the bromide displays its powers as a hypnotic to the best advantage in this class of patients, while in others, and of these there are only a few, it produces but little, if any, perceptible effect. Case 6 illustrates this class. I think that it is effective in lessening cerebral congestion

when that congestion is in its incipient stages. When the congestion has lasted long enough to cause perversion of the faculties, as is evinced by numerous and various hallucinations, I think that its effects are very slight, if at all perceptible. Whether its power as a hypnotic is secondary, as J. H. BILL, M.D., (in an article on bromide of potassium in the *American Journal of the Medical Sciences* for July, 1868,) states, I do not pretend to say. So far as I have observed, there have been no ill effects here resulting from the use of the bromide in drachm doses. Sometimes after using it steadily for a week, a lack of co-ordinating power is observed in the lower extremities, but it soon passes off with the discontinuance of the medicine. Nearly every case that we treat here with the bromide, is accompanied with a diarrhœa or looseness of the bowels, which, in some cases, may require a little after treatment, but generally subsides with the discontinuance of the bromide.

In a case of active delirium tremens, I think that I should place greater dependence upon opium than the bromide of potassium, while in the milder cases, or the so-called "Jim Jams," I think that there is no remedy that has equal effect with the bromide.

BINGHAMPTON, September 1, 1868.

ON THE PROGNOSTIC SIGNIFICANCE OF CASTS AND ALBUMEN IN THE URINE.

By ROBERT T. EDES, M.D., Hingham, Mass.

Since Dr. BRIGHT's discovery of the occurrence of albumen in the urine in connection with disease of the kidneys, the relations between the two phenomena have been the subject of much inquiry, clinical and pathological. It is some years since the reaction began to take place in opinion as to the probably fatal import of more or less albumen in the urine.

At the present day, when the physician is on the look-out

for any thing in the secretions which can help his diagnosis, and the use of the test-tube is not deferred until convulsions, coma, or universal anasarca have made the case unfortunately clear, we know that albuminuria may occur in other diseases, and that even when associated with renal lesions, these may be so slightly advanced as to to make the prospect of alleviation, if not of complete cure, much better than was once supposed.

The aid of the microscope has, within a few years, been sought in the diagnosis and prognosis of renal affections, and it is in truth no small assistance; but the object of these lines is to show, that although urinary sediments afford useful data, they must be considered together with the other symptoms, and not exclusively relied upon.

The importance of these data is much increased practically, instead of being diminished, by the knowledge that an early diagnosis and detection of renal trouble in its first stages may prevent the necessity for that fatal prognosis which would be justified if we misunderstood the character of the disease until near its termination.

There are two classes of cases in which the occurrence of casts in the urine, though, of course, always a symptom to be considered in forming a prognosis, is of much less serious import than in other forms of disease.

First. In acute renal dropsy, either idiopathic or following scarlatina, the prognosis is not extremely unfavorable. Some writers have supposed that every case of scarlatina would show albumen in the urine at some stage or other, and it is not at all improbable that the same would be true of casts if they were carefully looked for. The process which goes on in the kidneys is undoubtedly analogous to the desquamation of the cuticle; and although, from the narrow space in which the epithelial cells are cast off and the difficulty of working them completely out of the convoluted tubes, it is not so simple an affair as on the cutaneous surface, yet in favorable cases the two

organs, internal and external, are finally left in an equally healthy condition.

Second. During pregnancy, and for some time after delivery, both casts and albumen (though probably with more frequency the latter) may occur, not only in patients who ultimately do well, but even in those who have no other symptoms, and consider themselves healthy.

A friend and neighbor has informed me of a case where a tolerably good recovery took place after puerperal convulsions, but where, according to my own examinations, albumen and casts continued for some weeks, the patient being about the house and feeling very well.

ERICHSEN says: "The most dangerous complication of erysipelas, and one which, when it exists, almost precludes the hope of recovery, is a granular state of the kidneys with albuminuria. I have never seen any patient laboring under this disease, and attacked with erysipelas, escape with life; the sloughing and suppuration moving on unchecked by any treatment that could be adopted."

The following case, though not perhaps precisely of the kind referred to by ERICHSEN, is of interest in this connection: B. M., a hard working woman, mother of ten children, had erysipelas which commenced in the thumb on March 17th. It extended to the shoulder, with subsequent gangrene of the hand and forearm.

On March 21 her urine contained a little albumen and a few casts, epithelial and hyaline, of the large size. That evening labor pains came on, and she was delivered of a five or six months fœtus, which breathed a few minutes.

On March 23 her urine contained no albumen, but some granular hyaline and epithelial casts.

She did not have an unpleasant symptom on the part of the uterus; the erysipelas in the upper part subsided; a good line of demarcation was formed, and when the arm was amputated the stump did very well.

The chronic, non-puerperal cases where albumen and

casts are found, are those to which the appellation "Bright's disease" more properly belongs.

The long duration of many of these cases under judicious treatment is now well known, and it is not at at all improbable that something approaching a cure may sometimes take place.

We do not suppose that a chronic lesion of so important an organ as the kidney can be fully repaired, but the morbid process may perhaps be arrested, and by the amount of work to be done being regulated to correspond with the condition of the organ which is to do it, or by that organ being temporarily relieved by another (as nature teaches us by the vomiting and purging which often occur), a state of things may be attained which, if not health, is comfort, and which may be called rather a liability to disease than disease itself.

These views of the significance of casts and albumen in the urine should not lead to a neglect of such very important data, but rather to an early and thorough search for them in doubtful cases, or, in fact, in all but the very clearest.

As before marked, the early knowledge of a condition which can be cured or relieved, is of much greater importance to the practical physician, than a symptom which can only assure him in the most unfavorable prognosis.

SEPTEMBER 27, 1868.

SNARE FOR REMOVING FOREIGN BODIES FROM THE URETHRA.

By JOHN T. HODGEN, M.D., Prof. of Anatomy, etc., etc.,
St. Louis Medical College.

About a year ago I was called to see a child suffering from retention of urine. The messenger informed me that the physician in attendance was not provided with a catheter, and requested that I should bring a small instrument.

On reaching the house (late at night) I attempted to

introduce the catheter, which, after passing about two inches, came in contact with a calculus impacted in the urethra.

On leaving my home I had not suspected the nature of the difficulty, and was consequently not provided with the usual instruments for removing such obstructions.

It occurred to me that by bending the wire found in my silver catheter (used to clear the instrument), I could form a loop that would readily pass the stone and encircle it, and that the stone might be withdrawn as corks are removed from bottles. I immediately put the thought into execution; passed the stone, looped it, and drew it out.

Six months ago I was called to a similar case, in which the usual instruments—Hunter's forceps, scoops, etc.—had failed. I at once resorted to the wire loop, and delivered the stone at the first attempt.

I then directed the instrument maker to make the instrument represented in the wood-cut (Fig. 18):

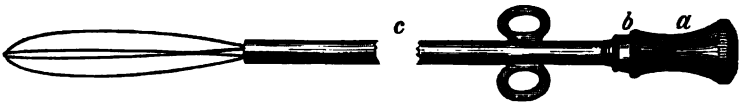

Fig. 18.

The shaft (*a*) passes two or three inches into the canula (*c*), and has the ends of the looped wire fixed to it, so that by operating on the projecting portion at (*a*), the loops of wire may be made large or small at will.

The canula (*c*) is of silver, and the size of a small catheter eight inches long, having the end most distant from the handle perforated by four small openings, through which the two wires project, having two loops an inch and a half or two inches long, and right angles to each other.

The wires are of untempered steel, No. 28 English standard; they should be bent sharply, and one a little shorter than the other, and the loop in the shorter wire should be narrower than that in the longer, so that when

the two loops are pressed between two plane parallel surfaces, the two loops are in the same plane, the smaller and shorter within the larger and longer.

How Used.—Draw the shaft (*a*) out until the loops are quite short; pass into the urethra until the loops come in contact with the foreign body; then push the shaft forward in the canula until the loops project half or three-quarters of an inch; cause the ends of the loops to project a little to one side of the foreign body, and move the instrument onward until the points of the loops are fairly beside the obstruction; then protrude the loops (by pushing the shaft farther in) until the obstruction is passed; move the instrument gently backward and forward a few times, and the elasticity of the wires will enable them to assume a position at right angles to each other, and the foreign body must be within the loops; now withdraw the shaft until the wires are made to grasp the foreign body; on making traction on the shaft, the body will be drawn out.

Advantages.—Hunter's forceps often fail because they are apt to slip, or the stone may crumble, and there is danger of seizing the mucous membrane and tearing it. The scoop, from its thickness, is difficult to pass beside a stone without tearing the urethra; and in withdrawing it, the wall of the urethra must afford the resistance necessary to the action of the instrument on the other.

The snare, from the elasticity of the wire loops and their thinness, is easily passed; must embrace the stone; can not slip or seize the mucous membrane, and furnishes four guards to prevent the rough calculus from tearing the urethra.

CASES IN PRACTICE.

I. *Case of Strangulated Hernia reduced by Persistent Taxis.* Reported by W. N. Brennan, M.D., St. Louis.

James Conroy, native of New Orleans, æt. 27, dark complexion, unmarried, a tin and copper smith; had been troubled with an inguinal hernia on the left side for the

last ten years. He wore a truss, and never experienced anything like a strangulation until July 25th, 1868, when lifting a heavy bar of tin, the truss was displaced, and the hernia became so large he could not reduce it. He waited and tried to reduce it from 10 A. M. until 5 P. M., when he dispatched a messenger for me. I found he had also hydrocele of the left testicle. I determined, of course, if possible, to reduce the hernia by taxis. I manipulated it considerably, compressed it steadily in the grasp of both hands, pressing sufficiently against the external abdominal ring. It did not recede or diminish after half an hour of such treatment. I next applied ice to the protrusion without any perceptible benefit; then gave pulvis ipecac. ℈i at one dose, which caused him to vomit freely. Again I compressed the tumor with my hands, pressing not too severely against the ring. This I now continued steadily about twenty minutes. I also had a man to hold his legs up perpendicularly, raising the pelvis a little, in the hope that gravitation might help. At this juncture, with no recession, retreat or diminution of the tumor, I admit I felt somewhat discouraged, and thoughts of chloroform, scalpel, forceps, and grooved director occupied by mind. Patient toil and resolute perseverance work wonders. After an hour and three-quarters (using compression half the time) I had the gratification of reducing the hernia and, of course, rescuing the man from the peril of an operation. I have no disposition to be didactic, but this case teaches me that patient, steady, reasonable compression during two hours, or more if necessary, not only against the external ring but between the hands (one hand if the tumor be small), will reduce many so-called irreducible and strangulated hernias, and prevent the perhaps too frequent, too ready use of the scalpel in such cases. This patient suffered slight pain in the left inguinal and hypogastric regions during several hours after the reduction of the hernia, but was at his work and well as usual two days after the events described.

SEPTEMBER, 1868.

II. *Two Cases of Hepatic Abscess following Malarial Fever.* Reported by GEO. J. HUEY, M.D., Cape Girardeau, Mo.*

CASE 1. W. N., æt. 21, native of Louisiana, a returned Confederate soldier, presented himself to me, April, 1862, and stated that in March previous he was taken sick, while in camp in Virginia, with fever and diarrhœa, and with a pain in the right side which troubled him a good deal; took some medicine (calomel, opium, and quinine), which relieved him temporarily; he was too weak, however, to do duty, obtained a furlough and came home; and when I saw him, he presented the following symptoms. General appearance emaciated and weak; a very severe pain in right hypochondrium, extending to the left over the epigastric to the left lumbar region; headache; eyes jaundiced; tongue coated with a yellow fur, red at tip and edges, but not very dry; pulse 92; breathing 33; bowels constipated; when they did act, the stools were of a clay colored appearance; skin a little dry and harsh to the feeling; urine, normal in quantity, but highly colored with bile; thirst not very great; appetite none. On examining the right side there was a slightly elevated tumor, somewhat indurated, a little above the natural temperature, painful on pressure; the edges harder than the central portions, but on account of the extreme tenderness fluctuation could not be felt; pains darting up to both shoulder blades. From all the appearances of the case, I concluded suppuration had taken place, but not being sure of sufficient adhesions being formed, I waited and put him upon a few alterative doses of mercury, followed by a saline cathartic. After this I opened the tumor, and there issued about one pint and a half of bloody matter, to his great relief; his nights were restless, and he could not lie on either side, but had to be propped up on his back on pillows to obtain any rest at all. I introduced a tent in the incision, applied a bandage, and over this emollient poultices; as the incision would incline to clog, I would introduce a probe occasionally, and

* Formerly of Parish St. Landry, Louisiana, on the Atchafalaya River.

give free exit to the matter, and with an occasional cathartic, I put him upon tinct. colombo and nitric acid. The discharge becoming less and less, at the end of two weeks it seemed to have ceased entirely; at the same time his condition was generally improved, so that at the end of three weeks from the operation he was enjoying his usual health.

CASE 2. A negro man, æt. 40, tolerably good constitution; case pretty much of the same nature as case 1; had been troubled with chills and fever some little time before I saw him. The abscess was in the right hypochondrium, very painful, and felt somewhat hard; pains in shoulders, back, and head; in other respects same as the first. I opened the tumor, and two pints of bloody, watery matter run out to the patient's great relief. I used the same remedies as in case 1, and at the end of 30 days he was in his usual health again.

The only difference of any importance in the two cases was that this case after ceasing at first, seemed to form a fistula, which would every now and then break out and run, until in the end I cauterized it, when it healed and never afterwards gave him any trouble.

SEPTEMBER 25, 1868.

III. *Another Case of Hepatic Abscess.* Reported by John W. TRADER, M.D., Sedalia, Mo.

A case of suppurative inflammation of the liver came under my notice some two years ago, that is not altogether without interest: GEORGE ——, a black man, about 25 years of age, was taken very ill in the fall of 1866. I found him suffering with pain, with fullness of the right side, extending along the margin of the ribs to the spine, and on a line parallel with the ensiform cartilage. The pain at times seemed to occupy the region of the stomach. Upon examination I found dullness on percussion, and tenderness over the liver, while there were no signs, aside

from the referred pain, to indicate any derangement of the stomach. The attacks were ushered in with chill, some slight vomiting, pyrexia, furred tongue, etc., presenting to my mind a type of remittent fever. The prescription was quinia and pulv. Doveri, to be preceded by a calomel purge. Some days after I found my patient freer from intense pain, but emaciated, with quite an enlargement midway between the ensiform cartilage and umbilicus, and I began to suspect hepatic abscess. Bisulphite of soda, nutritious diet, etc., were prescribed. Some thirty or forty days after, his strength seemed to be improved, but the enlargement was enormous, presenting the appearance of a woman at full term. I consulted with some of my friends about the propriety of cutting into this tumor, which evidently contained a fluid, but deferred any interference at the time. A few days after I was sent for, and found him suffering greatly. I at once determined, as a means of relief, to make an opening into the cavity. Being entirely without assistance, and without convenience for my patient except such as the most abject poverty provides, I concluded first to introduce a trocar for the purpose of exploration, placing it in the median line between the cartilage and umbilicus. Upon withdrawing the instrument, a muddy fluid, accompanied by offensive gas, began to escape. Having nothing better, I took an old oyster can, holding near a quart, and soon caught it full of the fluid, continuing to fill and empty until four cansful were emptied. This seeming to afford good relief, I concluded to stop the discharge until next day, but on returning found my bandage and compress had failed to meet the indication, and the discharge through the night was fully equal to what I had drawn off the previous day, with the orifice still oozing, but now a more laudable pus. Under a continuation of the treatment last mentioned, he mended rapidly, and in the course of two or three weeks visited me at my office. Time passed on, some months, perhaps; it was now cold weather—when one morning I was informed that GEORGE had died the previous night.

Feeling quite an interest in his case, and knowing that he had continued to improve up to within a few days, I took my friend, Dr. MILLER, and succeeded in obtaining permission to proceed with an autopsy. In cutting down upon the cyst, extensive and permanent adhesions between the liver and walls of the abdomen were found to have taken place. The parenchyma of the right lobe were destroyed to a great extent, forming a cavity capable, in its present contracted condition, of containing from one to two pounds of fluid. The cavity contained from one to two drachms of pus, and was thickly studded with healthy granulations. From all that was revealed upon post-mortem exploration, death must have occurred from some remote cause. The weather was so cold that I could not proceed with the examination with any degree of comfort. There was no evidence of pyæmia or septicæmia, no peritonitis, no opening into the pleural or abdominal cavities, no appearance of multiple cysts, and nothing to indicate an unfavorable prognosis of the abscess.

SEDALIA, October, 1868.

ON PHAGEDENIC CHANCRE OF THE RECTUM.

By Dr. A. DESPRÉS, Surgeon to the Lourcine Hospital, and Fellow of the Medical Faculty of Paris.

Translated from the *Archives Générales de Médecine*, for March, 1868, by CHARLES E. BRIGGS, M.D., St. Louis.

§ I. Phagedenic or corroding chancre has been for a long time the subject of important works. Some had it in view to show the invading march of these ulcerations; the others were memoirs bearing upon the therapeutics of this affection. Yet something remains to be said: it could be shown that all syphilitic ulcerations are susceptible of becoming phagedenic; the conditions could be investigated under

which this formidable complication develops itself. But I do not intend to treat so vast a subject, and this article will call attention to one point only, phagedenic chancres of the rectum.

In the literature of medicine there are observations similar to those that I have collected at the Lourcine Hospital; the conclusions alone differ. The reflections that BOYER makes, in speaking of chancres of the fourchette, prove that that surgeon had met facts like those that I have observed. Thus he speaks of recto-vaginal fistulas following chancres of the vulva and anus. M. GOSSELIN has said in his work on the strictures of the rectum, that chancres of the anus could excite an inflammation of the rectal mucous membrane, which is the origin of a stricture. Subsequently, in a recent article in the *Dictionnaire de médecine et chirurgie pratiques*, the professor has added: "Sometimes we see chancre extend to the mucous membrane of the anal passage."

I have observed, since I have been at the Lourcine Hospital, seven phagedenic chancres of the anus and rectum, following soft chancres or ulcerated mucous patches of the anus; I have still under my official care six of these cases. I have seen beside eight soft chancres of the anus, and twice ulcerated mucous patches of the anus turning into phagedena. I present the following six cases, which give all the degrees of the disorder, from an ulceration quickly arrested by strong cauterization up to stricture of the rectum, first ulcerating, then fibrous, that is to say, up to more or less complete cicatrization of rectal chancre.

CASE I. *Phagedenic Chancre of the Rectum.*—S. (LOUISE), æt. 17, entered the hospital the first time, Dec. 6th, 1866, for vaginitis and old ulceration of the cervix, a still perceptible roseola and vegetations of the vulva and in the vagina. The commencement of the disease dated back four months and a half. This patient was subjected to tonic treatment; tampons of alum were applied, and baths of the sublimate and of sulphur, to the number of seven each, were given. The patient went out cured, after having presented a slight palmar psoriasis, and a phlebitis of the external saphena vein, foreign to the syphilis. The ulceration of the cervix was cauterized with the chloride of zinc. Nothing was seen in the region of the anus.

This patient re-entered the hospital, Oct. 5th, 1867, complaining of itching of the anus, and red spots on the forehead. Fifteen days after leaving the hospital, the girl said that she had experienced pain in defecation, and that the pain recurred afterward, when she was constipated. This symptom she said happened to her very often. (It is probable that she had committed excesses in coitus immediately after her departure from the hospital, and as excesses of coitus constipate, the condition of the patient can be explained.) Finally, she had discharged a little blood with her feces towards the month of June last.

On examination the surgeon finds that the discolorations on the forehead are ephelis, and on exploring the anus, he determines the existence of an ulceration with slightly fungous edges on the right side of the margin of the anus. The finger introduced into this orifice penetrates an elongated ulceration, deeper than its breadth, which receives the first two phalanges of the index finger, and has detached the rectal mucous membrane on both sides; and, what is strange, a strip of the mucous membrane, as large as the little finger and rounded, forms a true polyp, taking its origin from the most elevated portion of the ulceration, an inch and a half above the anus. This strip of mucous membrane, full of vitality, nowhere shows ulceration, and hangs free in the rectum. (This condition of things can not be explained except by holding that the ulceration has spread beneath the mucous membrane, which has been torn at the sides during efforts at defecation, leaving it intact above.) Nothing is more easy than to estimate the dimensions and the limits of the ulceration. The touch gives perfectly exact notions of its qualities, irregular borders, and granular base; examination by the speculum informs us only that the base of the ulcer is of a wine red color, and covered in spots with a grayish detritus. The ulceration is not very painful to the touch; it discharges some pus with the dejections; the anus is moistened by the discharges from the ulceration situated at the margin of the anus.

The treatment established has been a weekly cauterization with the saturated solution of the chloride of zinc, large meshes of lint smeared with *onguent de la mère* (a suppurative ointment, TR.) left in position twenty-four hours; an oily or emollient injection every day. The patient, who is very intelligent, follows up the treatment very well.

At this date the ulceration has diminished more than one half; the edges of detached mucous membrane can no longer be felt; the polyp formed by the mucous membrane is disappearing. The cauterizations will be renewed only in case the ulcer ceases to diminish. The general condition of the patient is excellent.

Reflections.—I do not hesitate to entertain the opinion that with this patient as with L. (ANASTASIA, Case 3), there was an ulceration about some mucous patches of the anus, and that it escaped my notice, either because it caused the patient no pain, or because she feared to be cauterized like L. (VICTORINE), who was by her side, and whom I was obliged to cauterize very often.

[Cases 2, 3, and 4 have been necessarily omitted owing to the length of the article.—TR.]

CASE 5. *Phagedenic Chancre of the Rectum, Recto-vulvar Fistula, Stricture of the Rectum.*—M. (CÉSARINE), æt. 38, entered the hospital April 9th, 1867, St. Bruno Hall, No. 7, with a recto-vulvar fistula, a stricture and ulceration of the rectum, independently of mucous patches of the vulva.

This woman had had three years before a chancre of the anus treated by M. SIMONET at the Lourcine Hospital for six months, by mercurial pills; three years previously she had been treated for two months under the care of M. A. GUÉRIN, at the Lourcine Hospital for mucous patches. She is emaciated, pale, and depressed; she says she has never been cured, and that, since she had an abscess of the vulva, her disorder has become worse. She passed pus and sometimes blood with loose fecal discharges; for more than a year she had suffered on going to stool; and finally she had thoughts of committing suicide.

Her condition is as follows: At the fourchette is formed a little to the left an ulceration with slightly thickened edge, surrounded with callosities, and a hypertrophy of the mucous membrane resembling elephantiasis. These ulcerations communicate extensively with the rectum. The finger introduced into this passage perceives a large loss of substance of the anterior and left wall of the rectum; above the anus we find the rectal orifice of the fistula, and then above this the rectum contracted in the form of a cone. The index finger introduced to its full extent tears some bridles, and reaches with difficulty as high up as the narrowest portion of it. All the constricted canal is formed by soft nipple-shaped prominences easily torn, and including irregular ulcerations in their intervals. Pus came from the anus and from the fistula during the examination. There were two condylomata at the anus, and on the internal face of one of them there was still an ulceration continuous with that of the rectum.

A cauterization was made with a pencil soaked in a saturated solution of chloride of zinc applied to all the points of the rectum that could be reached. A pencil charged with caustic is also passed through the fistula to cauterize all the parts separated between the vulva and the rectum. Injections of the extract of rhatany were prescribed; large meshes smeared with *onguent de la mère* were inserted for twenty-four hours, and introduced as high as possible. A tonic regimen was prescribed. Half a gramme (*about* 7 3-4 *grains*) of iodide of potassium was administered daily. The mucous patches were cauterized.

Weekly cauterizations were practiced as above. The mucous patches healed rapidly; the orifice of the fistula contracted, and the narrowest portion of the stricture seemed to descend; it is not more than 3 1-7 inches from the anus.

Under the influence of the cauterizations of the meshes and the astringent injections, the improvement continued. The internal surface of the rectum became more smooth; the fungous prominences were felt indeed, but the stricture became cylindrical. Nevertheless, the patient always discharged pus, and had a persistent diarrhœa. As it was not possible

to succeed in examining above the stricture, two injections of water, 150 grammes, and chloride of zinc, 2 grammes, were administered at intervals of eight days to cauterize everything that had escaped the first cauterization, and the ulcerations situated above the stricture. The same day that the first injection was given, canulas of the size of the little finger, pierced at the end, were introduced for the night; the meshes remaining in place only for some hours in the day. The injections have caused some colic.

During two months the dilatation was made regularly, the patient retaining her canula all night. Cauterizations of the ulcerations below the stricture have produced their cure; the borders of the fistula have cicatrized; that is to say, the canal of the fistula has covered itself with epithelium. From the commencement of the dilatation, the patient took an injection of rhatany every day.

On the 20th of July the stricture allowed the passage of fecal matter, soft, but not like that of diarrhœa; there was scarcely any pus mingled with the feces when the husband of the patient came to seek her, learning that she no longer suffered pain and was better.

A month later M. returned to pass a month at the hospital; the dilatation was renewed with the canula and the meshes; two cauterizations were performed on a level with the stricture at points which had been torn. The most contracted portion was still very high; the anus had sunk in instead of the strictures coming down. The stricture was almost cylindrical, the index finger just fitting into the contracted cavity of the rectum.

The patient left the hospital at the end of August, with only the fistula and the stricture.

M. DESPRÉS, not wishing to touch too young cicatricial tissue, did not attempt to close the fistula, and recommended the patient to pass the canula into the stricture every day, and to take injections of the water of walnut leaves every time she went to stool, before and after defecation.

CASE 6. *Chancre of the Rectum, consequent Valvular Stricture.*—D. (CÉLESTINE), æt. 32, entered under my care Dec. 5th, 1865, for metritis, chronic leucorrhœa, and pain on going to stool. At that time she had a quite abundant discharge of pus from the anus, and there was a fissure. I supposed then that there was a blennorrhagic inflammation of the rectum, perhaps, caused by *a posteriori* relations. As it was at the commencement of my practice at the Lourcine Hospital, I did not think yet of phagedenic chancres of the rectum. Nevertheless, I had perceived by the rectal touch the mucous membrane to be uneven, and as it were granular, in front on a level with recto-vaginal septum.

The patient said that she had had her disorder for four years, and that she had been treated at the Saint Louis Hospital, under the care of GIBERT, for syphilitic acne and papular eruptions, and had taken for three months Gibert's syrup and the iodide of potassium. She had had pain for several months on going to stool.

The following treatment was given under my care: The ulcer at the margin of the anus was cauterized with nitrate of silver; half injections

with the extract of rhatany were administered in the morning, and oily injections at night. As the patient was anæmic, tonic treatment was given; some tampons of alum having been placed in the vagina, the leucorrhœa and the pains in the rectum were soon cured, and the patient chose to go out March 17th, 1866.

On the 29th of March, 1867, D. returned to the hospital, St. Bruno's hall, No. 2.

She was very much weakened, suffered a great deal on going to stool, and discharged pus with her feces. On examining the rectum, an ulceration was found above the margin of the anus on the left side as large as a piece of two francs, and on the anterior part another of the size of a fifty centimes piece. These ulcerations were fungous, and could be seen on pulling apart the anus; they are of a quite vivid red, and covered with a grayish or yellowish detritus; the edges are irregular. Above the lateral ulceration a slightly prominent bridle of mucous membrane is felt, situated about three-fourths of an inch above the anus.

Weekly cauterizations were made with the saturated solution of the chloride of zinc, and meshes smeared with the *onguent de la mère* were applied.

The anterior ulceration is not slow to cicatrize, but, at the same time, the valvular bridle of the ulcer develops more and more, and tends to form a contracted ring, that permits the passage of the feces. The lower and lateral ulceration cicatrizes more slowly.

On the 1st of August, the anterior ulceration is cicatrized, but the stricture of the rectum is more complete. The gum canulas are now applied every day. The patient soon recovered of it, so that she used only meshes smeared with *onguent de la mère.*

The lateral ulceration is cauterized four times more, and finally cicatrizes at the end of the month of September, and the patient leaves the hospital cured of her ulcerations, but with a fibrous stricture of the rectum, which I desired to incise; but the patient, who defecated very well, discharging cylindrical feces, thanks to the daily dilatation of the stricture by meshes, did not wish to be operated upon. I persuaded her then to follow out the dilatation at home, unless she wished to return to be treated for her stricture.

I have learned since, that this woman went to La Charité under the care of M. GOSSELIN; her stricture had become tighter, although no ulceration had reappeared. A section of the valvular growth was made by the professor of La Charité, a short time ago, and the dilatation was renewed.

It is easy to compare former cases bearing the title *stricture of the rectum* with the above cases. Thus in the thesis of M. PERRET, the 8th case shows that there was a recto-vulvar fistula and an ulceration at the anus, as with M., case 5. At the autopsy an extensive ulceration was found on a level with the constricted portion.

Another case related to a woman previously attacked with mucous patches, and who had an abscess of the labia majora, the opening of which became phagedenic, and served as the outlet of a recto-vaginal fistula.

The paper of M. GOSSELIN equally includes cases analogous to mine, if not of the same kind. Among others, one patient had obstinate ulcers at the anus in the region of the sphincter; they healed and then reappeared; the patient finally died tuberculous, and M. GOSSELIN found at the autopsy ulcers above and on a level with the stricture.

On one occasion, M. GOSSELIN has observed, as in my case 4, an ulcerous *esthiomène* of the vulva, that is to say, a phagedenic chancre with œdema of the labia minora and fourchette, resembling that of elephantiasis.

M. GOSSELIN, who has best studied the strictures called syphilitic, has drawn from the cases which he has collected these conclusions: that the original inflammation, capable of engendering stricture of the rectum, is a form of syphilitic disease to which a name has not been given, and that this inflammation is developed about a chancre. These are the words of the principal conclusion of the paper in the Archives: "The stricture of the rectum, called syphilitic, is not a constitutional accident; it is a lesion of vicinity developed above a chancre of the anus."

This proposition is accurate, but one word should be added to it; it is that the inflammation developed above a chancre of the anus produces a stricture only when the chancre itself has extended into the rectum. And this law can now be laid down, that strictures of the rectum, that are not traumatic, are most frequently the result of neglected phagedenic chancres of the anus and rectum.

§ II. Phagedenic chancres of the rectum are ulcerations of slight depth, with sharply cut irregular edges, and have for their origin either a soft chancre or ulcerated mucous patch of the anus. Much more rarely is rectal chancre produced directly by relations against nature.

The pathological anatomy of phagedenic chancres of the

anus and of the rectum, is to be found stated in part in the chapter having reference to strictures of the rectum.

What M. GOSSELIN has written, what M. PERRET has reproduced, and what is recorded in the Bulletins of the Anatomical Society, is all that can be said here on phagedenic ulcerations of the rectum. None of my patients died, and I have not had an opportunity to examine by autopsy a rectum presenting a phagedenic ulceration.

The lesions observed by M. GOSSELIN were: An irregular ulceration, with fancifully indented outline, and situated below, on a level with or above a stricture, in a dilated portion of the rectum; sinuses, adventitious ulcerous communications between the rectum and the neighboring organs, or an anal fistula; cicatrices of ulceration which have been seen in the vicinity of existing ulcerations. Mention is not made of engorgement of neighboring ganglions. By the side of this principal lesion, others are found; cicatricial fibrous bridles that constrict the rectum; sometimes condylomata, at the margin of the anus; that is to say, hypertrophied folds of the anus, infiltrated with serum, assuming the appearance of elephantiasis, and susceptible of presenting ulcerations on their surface. These lesions have been called by M. HUGUIER *esthiomène* of the vulva, doubtless because he did not recognize the chancres as the original lesion.

On Friday, the 27th of December, M. LIOUVILLE, house surgeon under M. GOSSELIN, presented to the Anatomical Society the rectum of a man 52 years old, who had been affected for several years with stricture of the rectum and fistula in ano. There were ulcerations, fibrous bridles of the rectum, and one ulceration extending in the iliac sigmoid flexure up to 8 3-5 inches above the anus. The stricture was situated 3-4 of an inch above the anus. Five ulcerations were orifices of fistulous passages communicating with the exterior on a level with the buttocks; three of these fistulous orifices were above the point of stricture in the intestine and two below.

There were ulcerations at those points where the fibrous bridles terminated on the mucous membrane; these ulcerations were irregular, with perpendicular borders; at other points above the stricture were found projections slightly nipple shaped near ulcerated points; only these nipple shaped projections were not very decided; they had diminished after death, as well as the condylomata or hypertrophied cutaneous folds situated at the anus.

I do not doubt that at some time this patient had an anal or rectal chancre which had not been recognized; and if comparison is made of what this autopsy has presented, with what has been felt by rectal touch in the case of M. or L., the conclusion would be that the specimen of the Anatomical Society accords well with a phagedenic ulceration of the rectum healing at the cost of a stricture.

Never, in fact, would a simple inflammation of the rectum be capable of producing cicatrices like those presented by the rectum that has been shown at the Society. These bridles, which I have been able to examine at leisure, had an extent of from 1 1-5 to 1 3-5 of an inch, and at certain points were as thick as a quill. I have verified, also, on this rectum, the difference of sensation given by sound mucous membrane, or a cicatrix and an ulcerated point; and this will confirm what will be said below with regard to diagnosis.

The ulceration above the stricture did not differ from the ulcerations that have been seen by M. Gosselin, and represented in the two drawings described in his essay, and which the professor has shown to us. It is a gangrenous softening of the mucous membrane, or an ulceration more or less deep, which is due, without doubt, to the contact of feces, arrested on a level with the stricture.

In one of the drawings that M. Gosselin has had executed can be seen a little island of sound mucous membrane on a level with the stricture; there is a turgidness there, and it is in truth the representation of the nipple-formed

projections that can be felt with patients at the stage when the cure of the ulceration begins to establish itself, as in the girl D., case 7.

Symptoms. — Phagedenic chancres of the rectum are rarely diagnosticated at their commencement, unless the patients have at the anus very visible soft chancres or mucous patches. In fact it is seldom that the patients complain in this quarter. It is only when the folds of the anus are seen to become prominent, form condylomata, and exude between them a little pus, that the disorder is recognized and the ulceration seen. In the eighteen months past that my attention has been called to these chancres, I have sought for them, and I have very often found between the folds of the anus chancres and fissures, that nothing on the exterior had given cause to suspect. When the patients suffered at the anus, the chancre was generally very large and already extended into the rectum. On the contrary, ulcerations situated between mucous patches and inclining to phagedena, in spite of their extent, do not cause the patients pain sufficient to occasion the investigation of the surgeon.

Ulceration of the rectum, of the character of soft chancres, has a site of election at the anterior part of the anus, and it can be seen at its commencement by separating to the right and left by the help of the fingers the folds of this orifice.

Its extent is determined by introducing the extremity of the index finger into the anus, and a loss of substance is perfectly well felt at the same time that a little pain is occasioned. Some persons have a prolongation of the perineal raphe in the direction of the anus, at the entrance of which it forms a projection; it is under this fold that the soft chancre has its seat, and when this ulceration is a little developed, the fold becomes very prominent, red, and painful, and sometimes has the volume of a hazel-nut. The chancre, then being partly on the exterior, presents itself with irregular sharply cut borders and yellowish base,

and it bleeds little. This chancre has been seen by M. GOSSELIN "on a condyloma, consisting of two folds, separating which the ulcer was found." In the portion that is situated within the rectum, the base of the ulcer is red and granulating, and the mucous membrane is turgid in spots around the ulceration. These prominences of the mucous membrane seem to me, as in the case of L., to be detached portions of sound mucous membrane.

The ulcerations that are situated between the mucous patches are at first indolent fissures; the anal mucous membrane divides to the bottom of the space, which separates the folds transformed into mucous patches; the derma is denuded. The linear ulceration gains in depth and extends up into the rectum, where it then changes its character to assume irregular forms.

Later, the two varieties of ulceration can not be distinguished. On introducing the finger into the rectum, an irregular granular surface can be felt,—rugosities, as M. GOSSELIN has said. The edges of the ulceration can not always be distinguished, only the sensation given by the ulcer is so different from that given by the very smooth, sound mucous membrane, that the position and extent of the ulceration can be very well recognized. In the case of S. and of D. nothing was more easy. At this period pus comes from the anus either during examination or with the fecal matter. The patients suffer in going to stool whenever they discharge somewhat hardened feces. The suffering also varies according to the state of sensitiveness of the patients.

Later still, the ulcerations of the rectum are less sensitive; their base and circumference are tumefied and, as it were, fungous; prominences are felt more or less rounded, soft, and indolent, which on examination by the speculum present a yellowish red color; these are fungoid growths, or rather œdematous fleshy excrescences, or equally well œdematous portions of mucous membrane. And this is a stage of reparation with ulcers of the rectum. This con-

dition was observed in the cases of M., of L., and of D. M. GOSSELIN has verified it twice at the Lourcine Hospital, as he has said in his essay, in the case of patients who had had chancres of the anus quickly followed by stricture.

Finally, when a stricture appears, the same symptoms are discovered that have just been pointed out, beside one or several bridles, which when they are recent tear easily, and allow dilatation of the stricture during the sitting by means of meshes.

When there is an ulceration above a stricture, it is very difficult to determine it, and in the case of M. I suspected it only from the exuding of pus, independent of defecation.

Ulcerous strictures of the rectum bleed very little. At no period in their development do phagedenic chancres of the rectum occasion true hæmorrhages.

Defecation is not impeded by phagedenic chancres of the rectum; when there is a stricture, defecation is difficult, very painful, and often an inflammatory or sympathetic diarrhœa supervenes, so to speak, as a compensation for the evil caused by the stricture. When there is a recto-vulvar fistula, fecal substances pass by it, but when there is a stricture of the rectum at the same time, as there does not pass before the rectal orifice of the fistula a great quantity of fecal matter at any one time, only a very little quantity of it is discharged by the vulva; but, on the other hand, a great deal of pus passes.

The invading march of phagedenic chancres of the rectum is very rapid in certain cases of constipated patients. But there are remissions and exacerbations having relation to the menstrual periods in women and to constipation. With women attention to cleanliness, and injections retard the progress of the chancre. Cicatrization can commence at certain points; witness the cases of L. and D. One or two years may pass before the chancre be arrested; that is what took place with the last patients.

Finally, phagedenic chancre of the rectum may excavate

in depth as with S. (Case 1), or on the surface as with D. (Case 6).

Many chancres or ulcerations, on the point of becoming phagedenic, heal up of themselves, if I may judge by the sufficiently large number of them that I have seen in hunting carefully for them.

In fact, patients under the observation of surgeons not forewarned, must keep their ulcerations quite a long time, and the number of strictures of the rectum is not very considerable. Thus, as far as I am concerned, I have seen nineteen ulcerations capable of causing finally strictures of the rectum, and at the outside but two ulcerating strictures of the rectum have come to me, which at the commencement had been treated only as chancres or mucous patches of the anus. Doubtless this depends on the treatment applied, which acts on the ulcerations of the anus without the knowledge of the surgeon, as will be seen below, when the question of the cause of phagedenic chancres of the rectum is discussed.

The complications of chancres of the rectum are anal or recto-vulvar fistulas. Perhaps the internal blind fistulas, described in the schools, as BOYER says, are nothing else than chancrous ulcerations of the rectum or ulcerated hæmorrhoids. I do not speak of strictures of this passage; all the large chancres of the rectum must terminate in a stricture. It is a phase of the disorder; it is not, accurately speaking, a complication. We have seen that recto-vulvar fistulas commenced, like all fistulas, by an abscess, of which the opening remained fistulous. There is nothing more special to add, unless it be that in some cases there is a phagedenic chancre at the vulva at the same time as in the rectum.

Etiology and Development.—Chancres and mucous patches of the rectum may be caused by relations *a posteriori*, but most frequently they are due in women to the contact of pus oozing from the vagina and bathing the anus; the pus then insinuates itself into the closed anal

orifice and penetrates by capillary attraction, just as the pus of vaginitis causes an inflammation of the meatus urinarius by insinuating itself into this passage to the depth of about 2-5 of an inch.

In default of any other ground for such an opinion, it would be demonstrated by the relatively considerable number of chancres of the anus and the rectum that I have observed: 21 in about 400 patients; and also by the fact that strictures of the rectum are much more numerous with women than with men. In the medical statistics of the hospitals for the year 1862 (the last statistics published), of 23 strictures of the rectum, 18 existed in women and only 5 in men. Of the 18 strictures observed with women, 4 had been seen at the Lourcine Hospital, while not one of the 5 men had been treated in the Hospital du Midi. Among the 11 strictures collected by M. PERRET, 8 were in women.

In comparing the strictures that I have observed in my hospital duty with the chancres that I have seen, either phagedenic or inclining to phagedena, the approximate result is reached, that 3 strictures occur to 21 ulcerations of the rectum. Now, if I make a calculation for women only, it is easy to see that the 18 strictures that have occurred in the hospital would correspond to about 108 phagedenic chancres of the anus and rectum in one year in women.

Certainly, if such a number of chancres had been met with in preceding years, the surgeons, who had treated them, would not have failed to make them the subject of remark, which, however, we do not find.

M. ROLLET (*Traité des maladies, vénériennes*, Paris, 1864) says that chancres of the anus are rare in women except in cases of sodomy.

M. CLERC (*Traité de la maladie vénérienne*, 1866) expresses himself thus in his recent work on syphilis: "When a chancre exists at the anal orifice, it is very frequent to observe others smaller on the skin surrounding

the anus. These chancres, which are in most cases the result of successive inoculations and of vicinity, are occasionally considerably numerous; on several patients we have observed up to 18 or 20 successive chancroids of the anus. Fortunately these chancroids do not attain to a great size; if it were otherwise, the prognosis of chancres of the anus would be very grave; while it is an observed fact, that these ulcers, although slow to heal, constantly terminate favorably; we do not know any examples of phagedenic chancroid in this region."

I should be easily tempted to explain this way of looking at the subject by the difficulty of recognizing chancres of the rectum, and by their unconscious cure, which in many cases with women takes place unwittingly. If, in fact, the finger is not introduced into the anus, it is impossible to measure the extent of a chancre which is believed to be limited to a fold of the anus; on the other hand, when a liquid caustic is applied to ulcerations of the fourchette, or even to ulcerations of the cervix uteri, some of the liquid caustic flows over the anus and penetrates into it, just as the pus has previously penetrated there to propagate chancres.

When mucous patches of the anus have existed before the chancre, the method of production of these ulcerations is a little different; it is a fissure that insensibly enlarges and extends up into the rectum, while the anal mucous patch heals. But still, in this case, the ulceration may be involuntarily cauterized. When the vagina or the scrotum is cauterized, the liquid penetrates into the anus and comes to cauterize the ulcerations quite deeply. If the anus besides is cauterized, the concealed ulceration is occasionally reached.

Constipation and diarrhœa foster and perpetuate chancres of the rectum; the former, because it tears the commencing cicatrices, and re-inoculations result; the latter, because it irritates the rectal mucous membrane, inflames it, and prepares the field for the propagation of the chancre.

Diagnosis.—When a soft chancre or mucous patches exist at the anus, and the patients complain of pain on going to stool, it is not difficult, on separating the folds of the anus, to determine the existence of an ulceration which penetrates quite deeply into the anal passage. But, above all, it is by the touch that we succeed in defining the extent of the ulceration and its invading march in the rectum; beside causing pain in pressing on the ulcerated point, we feel an irregular surface, granular and entirely different from the surface of the rectal mucous membrane, which is perfectly smooth even over the rectal glandules.

The examination by the speculum is difficult to accomplish well, and permits only one point of the rectal mucous membrane to be seen, which, moreover, makes a hernia into the speculum, and all that can be distinguished is the yellowish red color of the mucous membrane, and the grayish detritus covering the diseased points. Certainly it is a good element in the diagnosis, particularly if comparison is made between what is seen, and the normal color of the mucous membrane, which is pink. The discharge of pus, when the folds of the anus are separated, or when the patients go to stool, is a rational sign of very great value.

There are cases in which the diagnosis can only be made by chance. I have a patient, who came under my care at the hospital for soft chancres of the vulva on the way to cure, and on the cicatrices of them were vegetations; nothing raised a suspicion of chancres of the anus. On the 24th of Dec., on examining this patient, I found an inflammatory induration in this region of the vulvo-vaginal gland on the left side; I immediately thought of an abscess of this gland, but in pressing upon the inflammatory swelling, I perceived an emphysematous crepitation. As no pus came at the same time from the duct of the vulvo-vaginal gland, I did not hesitate to form the opinion that the abscess was already open into the rectum, and that some intestinal gases had insinuated themselves into the purulent centre. I introduced my finger into the rectum, and found an

ulceration on its anterior surface, through which I evacuated gas by pressing with my fingers on the left greater labium. Besides, the greater part of the anterior face of the rectum was ulcerated. This girl, very stupid and awkward, did not complain of being constipated, and thought it natural to have pains in going to stool. This, then, was a case of soft phagedenic chancre of the anus and rectum, of which the exterior portion had been cured by cauterizations (they had cauterized her chancres in the city), and its intra-rectal portion had been kept up by successive lacerations and inoculations at the moment of each defecation. An abscess of the vulvo-vaginal gland had supervened, and opened on the side where there was the least resistance, in the direction of a surface already ulcerated. This fact will serve to instruct practitioners, since, all forewarned as I was, it took me by surprise.*

The diagnosis of the complications does not present any difficulty; the recto-vulvar fistulas are recognized by simple inspection, and the callosities of the edges of the vulvar orifice indicate that the fistula has for its origin a phagedenic chancre of the rectum.

Condylomata, that is to say, hypertrophy of the folds of the anus, are in relation with an extensive ulceration of the rectum, and exist often at the same time with a stricture; redness of the buttocks is a betraying symptom. All these things, which in the eyes of the patients are inflamed hæmorrhoids, should put the surgeon on his guard.

Cancer of the rectum, and cancerous stricture of the rectum, may be for a moment confounded with phagedenic chancre of the rectum, either simple or complicated with stricture; but it must be taken into consideration, that

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*I opened the abscess and cauterized its cavity. The rectum was cauterized, and meshes placed in it. To-day nothing remains but the fistula, which narrows daily, and does not even permit the liquid of injections to pass, erythema indicating the abundant discharge of pus during the interval between stools.

the phagedenic chancre never occasions hæmorrhages; that it is compatible with the preservation of the general health, and that it exists in general in subjects still young, or who, if they are old, have had their disorder for several years.

Ulcerated hæmorrhoids are not more difficult to distinguish from phagedenic chancres of the rectum on the way to recovery; that is to say, accompanied by excrescences and nipple-like projections. The hæmorrhoids are always situated near the anus; they bleed easily, and the ulcerations occupy a hard and tumefied point; which is not the case in phagedenic chancre, with which the nipple-shaped projections are soft and can be depressed, and exist only around the ulcerated points.

Prognosis.—Phagedenic chancres, that have for their origin a soft chancre of the anus, heal more readily than phagedenic chancres following ulcerations of mucous patches, because these latter escape notice at their commencement, and the patients are most frequently only treated when the ulceration has made great progress.

M. Gosselin, however, has seen at the Lourcine Hospital chancres of the anus that had taken three months to heal; it is true that in this case the chancre increased at the same time, and the surgeon soon found intra-rectal irregularities of surface, and then a stricture.

Chancres of the rectum may heal in patients who use injections, and take proper care of themselves at the outset; but, if the ulceration has invaded the entire circumference of the rectum, a stricture is inevitable.

Fistulas, that result from a phagedenic chancre of the rectum, last as long as the rectal phagedenic chancre; they may continue afterward, but they are readily healed by one of the classic auto-plastic methods.

The resulting stricture of the rectum is curable when it is only a bridle. When there is an annular stricture, its consequences can be palliated by dilatation, but that is all

that can be done, a point not the least grave in the prognosis of phagedenic chancres of the rectum.

When the chancrous ulcerations of the anus are of not longer date than one month, they are easy to cure.

The *treatment* of phagedenic chancres rests on the principle that it is necessary to transform the ulceration into a granulating surface analogous to that of a simple wound. Now, the best way hitherto to attain this result is cauterization. The first indication, then, is to cauterize chancres of the rectum.

Cauterization of chancres of the rectum is easily practicable with the aid of pencils of charpie soaked in a caustic solution. The solution to which I give the preference is the saturated solution of the chloride of zinc. I introduce the pencil of charpie into the anus, and pass it over the mucous membrane in every direction; or I introduce the finger into the rectum and direct the pencil on the palmar face of the finger as far as the point, which I have taken care to place on the ulcerated places that I wish to touch. This is a good precaution in a case where the disorder is limited (as with S.). But in all other cases, as long as care is taken to pass the pencil in all directions, to push it as far as the height of the ulceration calculated by the touch demands, we can limit ourselves to introducing the pencil alone; the chloride of zinc caustic only cauterizes the surfaces deprived of epithelium, and in that consists its superiority to all other caustics. We need not fear pushing the caustic too far into the rectum; the thing is not possible; in introducing the pencil, the constriction of the anal sphincter presses out of the pencil more than the superfluity that it contains. At the same time it is necessary to dress the rectal wound just as external wounds are dressed. To attain this end, nothing is better than very large meshes of lint smeared with pomade of the *onguent de la mère:* lard, 3 parts; glycerine, 1 part; *onguent de la mère*, 2 parts; one or two oily injections also must be given to the

patients daily. The meshes should be retained for twenty-four hours, and are renewed after defecation.

When there are ulcerations and a stricture, when pus is discharged, we should use injections with the extract of rhatany, 8 grammes, and even the caustic injection: water 250 grammes, dry chloride of zinc 2 to 4 grammes; this injection can be retained up to ten minutes.

Two oily injections should be administered the same day with the above. Then recourse should be had to dilatation, with gum canulas pierced at the ends, which the patients are to retain all night, and they are to anoint them with pomade of the *onguent de la mère.*

When the stricture is dilated, we can make use of injections of rhatany to cure the ulceration above the stricture.

If there are fistulas, they should be cauterized, because their canals are phagedenic like the ulcer of the rectum.

When a stricture exists it is treated by the methods indicated in the medical classics, and especially in the essay of M. GOSSELIN; only, if the ulcerations reappear, energetic cauterizations, and even the caustic half injection, should be employed. Forced dilatation in those cases where there are ulcerations seems to me dangerous; dilatation by meshes presents no objection, and prepares the patients for the employment of dilators or canulas.

No specific general treatment is good for phagedenic ulcerations of the rectum, and on this point again M. GOSSELIN has well seen the truth.

To recapitulate: phagedenic chancre of the rectum is a malady of which the insidious development should be strictly investigated, in order by an energetic treatment to prevent the formidable result of this ulceration, that is to say, stricture of the rectum. Patients affected with soft chancres or mucous patches of the anus, can not be examined with too much care by rectal touch. To cauterize often, and with strong caustics, the ulceration before it has invaded the whole circumference of the rectum, not to allow the patients to remain constipated, to stop their inflam-

matory diarrhœa when it exists, and to keep meshes in the rectum; such is the best treatment of the phagedenic ulcer of this passage. The nearer the commencement of the disorder the treatment is applied, the more easily will the cure be obtained; for when the ulcer is large a stricture is inevitable, and there are no means of curing radically a stricture of the rectum.

Reviews and Bibliographical Notices.

DISEASES OF CHILDREN. A Clinical Treatise based on Lectures delivered at the Hospital for Sick Children, London. By THOMAS HILLIER, M.D., Lond., F.R.C.P., Physician to the Hospital for Sick Children, etc. Philadelphia: Lindsay & Blakiston. 1868. 8vo., pp. 402. Price, $3 00.

[For sale by KEITH & WOODS, 219 North Fifth Street, St. Louis.]

The book before us is "a series of short monographs on the most important diseases" of children, viz.: Pneumonia—Pleurisy—Rickets—Tuberculosis—Diphtheria—Acute Hydrocephalus and Meningeal Tubercle—Chronic Hydrocephalus, Tubercle of the Brain, and other cerebral affections—Pyæmia and Otorrhœa—Chorea—Infantile Paralysis—Ascites—Scarlatina—Typhoid Fever—the more frequent Skin Diseases,—and Epilepsy and Convulsions. There is no pretension of a systematic exhaustion of the subject of infantile diseases; the individual papers are offered as such, tied up in a bundle with a brief introduction and an appendix. The whole has an unassuming appearance, and is as valuable as modest. Its language is plain and devoid of rhetorical display. The introduction explains the importance of studying, besides the few affections which are seen in children only, the peculiar features also of diseases in general when they occur in childhood. The nature and origin of these peculiarities are then pointed out, and very useful directions given as to the examination of children. We are tempted to repeat the author's remarks on medication for children;—they are the rules of infantile therapeutics presented *in nuce:*

In the choice of medicines for children, some peculiarities must be specially borne in mind. One of these is the great susceptibility of children to the action of opium in its various forms. Such preparations as syrup of poppies, which are very uncertain in their composition, should never be given to children. The action of opium upon a young patient must be carefully watched, and the doses must not be too rapidly repeated. Calomel is a useful aperient for children, either alone or in combination with jalapine. It has the advantage of being tasteless, and not bulky, whilst it is efficacious and not irritating.

As an alterative and as an antiphlogistic, mercurials have been too frequently employed. In congenital syphilis, however, grey powder is the most satisfactory remedy; and in membranous croup mercury is often of service. Emetics are of great value in infancy in catarrhal affections of the larynx and bronchi, also when the stomach has been imprudently loaded. Ipecacuanha is the emetic which I prefer in the great majority of cases. Antimony, given until it causes nausea, is useful in severe cases of croup. Depletion, even by leeches, is scarcely ever required by children in London practice at the present day.

Blisters are to be avoided in children, from the risk of their causing constitutional irritation and deep ulceration. If used at all, they should not be left on more than three or four hours at a time.

Each of the separate articles of the book is a brief systematic treatise on its subject, interspersed with clinical cases. These are, on an average, good examples for illustration, and narrated sufficiently in detail. The author seems to be well versed in the literature of the day, quoting recent authors quite freely. To a correct valuation of the several symptoms, and to differential diagnosis, much prominence is given. The author's treatment is in most cases abundantly simple; a paragraph we copy from the article on Lobar Pneumonia is a good sample:

Usually, however, the best treatment is to keep the patient in bed in a room about 60 degrees, well ventilated, without a draught, to give a simple saline mixture, containing citrate of potash or nitre, a milk diet during the height of the fever, and when the temperature falls, some good beef-tea. Pneumonia must be regarded as the local manifestation of a general disease in the great majority of cases. The tendency of the disease in children is towards recovery; the great point is to do nothing to interfere with a rapid convalescence.

He then proceeds to discuss, in a few words, the remedies usually recommended. Antimony is seldom necessary or desirable. The local application of cold often relieves pain, but does not influence the duration of the disease. Counter-irritation is not much to be relied on; blisters are not recommended, certainly not in the acute stage. In the use of digitalis Dr. H. has no experience. Calomel is not to be recommended, etc.

In the chapter on Rickets, we miss a clear statement of the histological changes of the rhachitic process in bone, although sufficient space is devoted to a discussion of the nature of the disease. We were not aware, however, that it was necessary, at the present day, to enter into so elaborate an argument to prove the distinction between rickets and the mollities ossium of adults. Dr. H. opposes the view frequently taken of the disease as one

of the osseous system; he very properly regards it as "a general disease of nutrition," not to be set aside by simply supplying phosphates and salts of lime to the growing bones; for,—besides the all-important diet properly selected, pure air and plenty of light,—his chief remedies are cod-liver oil and iron.

In the article headed Diphtheria, the author absolutely denies the old orthodox definition of a "membranous croup," asserting that he "can detect no distinction between membranous croup and laryngeal diphtheria;" he thinks it *possible* that "pure sthenic laryngitis, not at all infectious, may, in some places, be attended with an exudation of lymph taking the form of false membrane," —but, "'epidemic croup' is always diphtheria." Though most of the recent writers on this subject have united laryngeal diphtheria and membranous effusion of fibrine *clinically*, we have not until recently read so extreme an opinion as the above by Dr. HILLIER, as to the pathological identity. We are not prepared or disposed to dispute this view, however, especially since another author, whom we regard as high authority, has lately expressed a similar opinion. Dr. JACOBI, of New York, writing in the *American Journal of Obstetrics*, August, 1868, says: "But whatever clinical difference there may be between a simple membranous inflammation and constitutional diphtheria, there is no anatomical difference between the membranes wherever they make their appearance." Whilst the latter author thus denies any difference between the two in *essence*, Dr. HILLIER devotes an extended and forcible argument to the denial of the possibility of *clinical* distinction. We presume it is safe, then, to follow Dr. JACOBI in his opinion that "catarrh on one side, diphtheria on the other, are but the starting and terminating points;" and that "the unbiased examination of all the cases of croup met with, yield but one common and essential symptom, namely, obstruction of the larnyx, from a nutritious disorder. Its form will differ." Like the last named author, Dr. HILLIER is a decided advocate of tracheotomy for meeting the indication "to avert death by asphyxia when other measures fail."

We will draw attention to one more of the instructive chapters in this useful book: that on Infantile Paralysis. Under this head the author treats of certain cases of motor paralysis (very frequent in infancy and almost unknown in adult life) probably due to disease in the spinal cord. The names applied to these cases have been "essential or idiopathic paralysis," "infantile or spinal paralysis,"

"atrophic paralysis," or "paralysis of children combined with fatty degeneration of the muscles." . . .

The children, when attacked by the paralysis, are usually in excellent health and robust. The loss of power is sometimes ushered in by convulsions or delirium, but more frequently by a simple feverish attack. . . . Occasionally paralysis is observed after a night's rest without any premonitory symptom, or even during the day without any warning. The age at which the attacks occur is most frequently between 6 months and 3 years, the period of primary dentition. . . .

Severe pain is sometimes present in the paralyzed parts at the time of the attack and for a varying period afterwards. This symptom often leads to the suspicion of an injury . . . which is usually quite unfounded. . . .

Loss of power is complete *at first*. . . . The sensibility of the part is not destroyed, but is usually blunted for a time only. There is no disturbance in the functions of the special senses.

Reflex movements are usually abolished. . . . In the later periods of the disease, if the atrophy is very partial, reflex paralysis is not observed.

There is no progressive increase of paralysis; but, on the contrary, some of the muscles first paralyzed very often subsequently recover their power, whilst others remain powerless. . . .

There is no rigidity of muscles, but absolute relaxation. . . . During the first week, or at any rate for three or four days after paralysis, the electro-muscular contractility remains intact; at the end of this period, in the cases which are on the point of rapidly recovering, all the muscles still retain their sensibility, whilst in those cases which are about to persist and be followed by atrophy, faradisation of the muscles gradually loses its power of exciting muscular contractions.

Dr. HILLIER does not agree with DUCHENNE in the distinction the latter draws between these two classes of cases, regarding the difference as one of degree rather than of nature.

After the paralysis has existed for some time, unless recovery takes place, the affected muscles become atrophied. . . . The nutrition of the whole limb is affected, the bones do not grow as on the other side, so that the paralyzed limb may be an inch or two shorter than the sound one. . . .

At the end of six months or more, if the muscles are not recovering their power or their sensibility to faradisation, the muscular fibre undergoes degeneration; the transverse striæ disappear first, then the longitudinal markings, instead of the transverse striæ amorphous granules appear, which are soon replaced by distinct fat globules. Whilst these changes go on in the paralyzed parts, the general health and nutrition of the patient are usually quite unimpaired.

The *causes* of this disease are not understood.

Prognosis.—In regard to life, this is favorable; the disease does not prove fatal. As regards restoration of power in the limb, at first no

opinion can be given; the character of the initial symptoms affords no clue to what may result. . . . When paralysis has lasted a few weeks, the most valuable means of prognosis is furnished by faradisation. The muscles that do not act to this stimulus will in all probability become atrophied, and if most of the muscles of a limb are thus affected, the growth of the limb will be arrested. . . . If the electro-muscular contractility is not destroyed, but diminished, we may anticipate a *complete* restoration of the muscles thus affected by the use of galvanism and other suitable means.

The treatment consists mainly in faradisation.

If space would allow, we would take pleasure in continuing our analysis through the remainder of the book, which we gladly recommend to our readers.

Paper and press-work (excepting quite a number of typographical errors) are good. We have seen better productions from the same publishing house, however.

G. B.

RECHERCHES EXPERIMENTALES SUR UNE NOUVELLE FONCTION DU FOIE, etc., etc. Par AUSTIN FLINT FILS, Doct. en méd., Professeur, etc., etc. Paris: Germer Baillière. 1868. 8vo., pp. 122.

[*Experimental Researches on a New Function of the Liver*, consisting in the removal of cholesterine from the blood, and its discharge from the body in the form of stercorine (seroline of Boudet). By AUSTIN FLINT, Jr., M.D., etc., etc.]

The contents of this brochure have been published in the *Amer. Journal of the Med. Sciences* for October, 1862, and are in fact but a translation into French of the article in the latter journal. We are not aware of the existence of a separate issue of it in the English language, and can not but think that a reprint of the article by Mr. Lea, or by Messrs. Appleton & Co., would have appeared quite as handsome as this French reproduction, and be *quite as welcome in this country.*

These researches are a creditable specimen of American experimental physiology, and an honor not to the author alone, but to our country also. It may be well, therefore, to present them to the European medical world in a language in which they will be accessible to a new circle of readers, and likely to attract renewed attention. Knowing that many of our readers are not acquainted with the results of Dr. FLINT'S investigations on cholesterine, we will take this occasion to reproduce them:

1. Cholesterine exists in the bile, the blood, the nervous matter, the crystalline lens, and the meconium, but does not exist in the feces in ordinary conditions. The quantity of cholesterine in the blood of the arm is from five to eight times more than the ordinary estimate.

2. Cholesterine is formed, in great part if not entirely, in the substance of the nervous matter, where it exists in great abundance, from which it is taken by the blood, and constitutes one of the most important of the effete or excrementitious products of the body. Its formation is constant, it always existing in the nervous matter and the circulating fluid.

3. Cholesterine is separated from the blood by the liver, appears as a constant element of the life, and is discharged into the alimentary canal. The history of this substance, in the circulating fluid and in the bile, mark it as a product destined to be gotten rid of by the system, or an excretion. It pre-exists in the blood, subserves no useful purpose in the economy, is separated by the liver and not manufactured there, and if this separation be interfered with, accumulates in the system, producing blood-poisoning.

4. The bile has two separate and distinct functions dependent on the presence of two elements of an entirely different character. It has a function connected with nutrition. This is dependent on the presence of the glyco-cholate and tauro-cholate of soda, which do not pre-exist in the blood, subserve a useful purpose in the economy, and are not discharged from it, are manufactured in the liver and peculiar to the bile, do not accumulate in the blood when the function of the liver is interfered with, and are, in short, products of *secretion*. But it has another function connected with depuration, which is dependent on the presence of the cholesterine, which is an *excretion*. The flow of the bile is remittent, being much increased during the digestive act, but produced during the intervals of digestion, for the purpose of separating the cholesterine from the blood which is constantly receiving it.

5. The ordinary normal feces do not contain cholesterine, but contain *stercorine* (formerly called seroline, from its being supposed to exist only in the serum of the blood), produced by a transformation of the cholesterine of the bile during the digestive act.

6. The change of cholesterine into stercorine does not take place when digestion is arrested, or before this process commences; consequently, stercorine is not found in the meconium, or in the feces of hibernating animals during their torpid condition. These matters contain cholesterine in large abundance, which also sometimes appears in the feces of animals after a prolonged fast. Stercorine is the form in which cholesterine is discharged from the body.

7. The difference between the two varieties of jaundice with which we are familiar, the one characterized only by yellowness of the skin, and comparatively innocuous, while the other is attended with very grave symptoms, and is almost invariably fatal, is dependent upon the obstruction of the bile in the one case, and its suppression in the other. In the first instance, the bile is confined in the excretory passages, and its color-

ing matter is absorbed, while in the other, the cholesterine is retained in the blood, and acts as a poison.

8. There is a condition of the blood dependent upon the accumulation of cholesterine which I have called *Cholesteremia*. This only occurs when there is structural change in the liver, which incapacitates it from performing its excretory functions. It is characterized by symptoms of a grave character, referable to the brain, and dependent upon the poisonous effects of the retained cholesterine on this organ. It occurs with or without jaundice.

9. Cholesteremia does not occur in every instance of structural disease of the liver. Enough of the liver must be destroyed to prevent the due elimination of the cholesterine. In cases in which the organ is but moderately affected, the sound portion is capable of performing the eliminative function of the whole.

10. In cases of simple jaundice, when the feces are decolorized and the bile is entirely shut off from the intestine, stercorine is not found in the evacuations; but in cases of jaundice with cholesteremia, the stercorine may be found, though always very much diminished in quantity, showing that there is an insufficiency in the separation of the cholesterine from the blood, though its excretion is not entirely suspended.

G. B.

ON DISEASES PECULIAR TO WOMEN, INCLUDING DISPLACEMENTS OF THE UTERUS. By HUGH L. HODGE, M.D., Emeritus Professor of Obstetrics and Diseases of Women and Children in the University of Pennsylvania. With illustrations. Second edition, revised and enlarged. Philad.: Henry C. Lea. 1868. 8vo., pp. 531. Price, $4 50.

[For sale by the St. Louis Book and News Co., 107 North Fourth Street.]

This second edition of a work first published in 1860 comes before the public at a period of unusual activity in the branch of medicine of which it treats, and the additions and alterations that distinguish it from its first edition are in a great measure due to this activity.

To the observer of the progress of medicine the position of affairs in what is now called gynæcology is interesting from a philosophical, as well as a scientific point of view. The laborers in this field, including the older men, who perforce must investigate the new movement in order to repel its errors or embrace its truth, may be classed, like novelists or other artists, into several schools, and we should have no difficulty in referring various writers on this subject to the sentimental school,—which is a little out of vogue,—the sensational, or finally, the realistic. The method of advance in medicine is inscrutable; as in other

human affairs, good often springs out of evil. Thus it is desirable to know what can not or ought not to be done, although no one desires the bad eminence of furnishing this information by his own misdirected enthusiasm and audacity. But it is obligatory to study medical facts however obtained, just as we can not neglect the physiological light that sometimes comes from wounds received in battle.

Observation and experience lie at the basis of medical science. The investigators of uterine diseases have, within the last few years, enjoyed unusual facilities by Sims' speculum, and other means for observing morbid conditions with ease and precision, while they have been enabled less blindly to apply treatment and appreciate its results. Success with vesico-vaginal fistula and other diseases, has impelled women more generally to put themselves under treatment, thus enlarging the field of observation. The *tactus eruditus*, which each man must elaborate for himself, has to a great extent given place to actual vision, of which the results can be more clearly described or accurately represented by colored drawings,—a state of things much more favorable to the wide diffusion of sound science, and the result of it is apparent in the proceedings of medical societies and in medical literature. All this activity and discussion must in the end be conducive to truth.

It is not to be expected that teachers of long standing in this branch should forget entirely the conservatism natural to their time of life, or readily desert the scientific theories they have so often reiterated from the professorial chair.

Few of our readers will need to be reminded that Dr. HODGE, the author of the work eliciting these remarks, is an Emeritus professor in the University of Pennsylvania, of more than forty years professional experience, and that he has also distinguished himself by inventing several forms of pessary, and by combining in the obstetrical forceps known by his name many useful qualities, and that his labors in these directions have been stamped as successful by the approval of large numbers of our profession.

It is not our intention to make a thorough review of this second edition, but to give such hints of its contents, together with extracts, that the general practitioner may form a correct opinion of its character. It is divided into three parts, of which the first and much the most voluminous is on diseases of irritation, the second

on displacements of the uterus, and the third on diseases of sedation. Sedation seems to be intended to mean "a depression of the organic or animal actions, or of both," and instances of it can be found in some cases of amenorrhœa.

An introduction of about 35 pages first appears in this edition, and seems to have for its object an exposition of the support its author can find for his views in some medical writers, and to state his antagonism to others with his reasons for it. Thus he says, "the weight of authority is in favor of the dogma, that the nervous and neuralgic complaints of women, their anæmia, chlorosis, and debility, with the consequent disturbance of important viscera of the head, thorax, and abdomen, are all the result of chronic inflammation, with or without ulceration or granulation of the mucous membrane of the cervix uteri. . . . We will, however, quote a few opinions from those who have partially, at least, if not entirely, protested against this pathology, and what seems to us its serious and dangerous practical consequences."—p. 57.

He particularly expresses his regret that Dr. T. GAILLARD THOMAS, whom he compliments highly, should promulgate the principles and practice given in his recent book, adding, "his views are summed up in the following declaration: 'Metritis in all its forms is the keystone of the arch on which rest the usefulness and knowledge of the gynæcologist.'"

On page 189 of Dr. THOMAS' book, we find the following passage, which reads a little differently. "He who desires to become conversant with the diseases peculiar to woman, to fully comprehend their pathology, and to be successful in their treatment, will do well to make the thorough understanding of inflammation of the non-pregnant uterus the basis of his education in this department of medicine. It is true that many diseased states of the pelvic viscera of the female are due to other causes, but it is not less true that the majority either take their rise in this, or in their progress become complicated by it, so that it forces itself constantly upon the notice of the gynæcologist as the keystone of the arch upon which rests his knowledge and usefulness." And at page 200 *et seq.*, it will be found that he represents acute inflammation of the parenchyma of the non-pregnant womb to be a very rare affection. He does, however, consider inflammation to have an important bearing upon diseases peculiar to women, while Dr. HODGE considers the

inflammatory theory to be radically incorrect, and that, if the supposed inflamed uterus should be regarded and treated as an "irritable organ," far better results could be obtained. Dr. HODGE does not deny that inflammations of the uterus occur, but he treats of them, p. 130, under the head of "complications of irritable uterus." And under the head of "Local Symptoms of Irritable Uterus," are his remarks on menorrhœa, hæmorrhagia, functional leucorrhœa, inflammatory leucorrhœa, and various forms of dysmenorrhœa. May it not be that Dr. HODGE's irritation is the inflammation of other authors? Bearing upon this point we give the following extracts from his first chapter on "nervous irritation and its consequences:"

"An irritation . . . is strictly a morbid excitement." There is organic irritation, and venous irritation. There can be an active congestion from nervous irritation, which is normal, but founded on this normal state, there is an abnormal state, of which we have examples, "in most of these cases referred to by authors under the name of apoplexy of the lungs, liver, spleen, bowels, uterus, etc. . . . The consequences of this congestion are sometimes moderate, and may continue for a long time without serious mischief, but are often terrible and fatal; yet in all cases they are very different from those of inflammation."—p. 78. The medical reader on the subject of inflammation can easily imagine the abstruse pathology that further elucidates these points; or, if not, he is referred to the chapter.

"What idea is to be associated with the expression, 'an irritable uterus?" No other than that the organ is more sensitive—more easily excited—than when in a healthy state. It is no longer in a normal condition, but in an abnormal, unhealthy, diseased state. This diseased condition has reference, let it be observed, not to its circulatory system, and, of course, not to organic life, but to its nervous system, its animal life. It is a state not of organic irritation, but of nervous irritation. In simple, uncomplicated cases, the alteration of the sensibility is the only indication of its existence. There is necessarily no turgescence of the organ; no congestion, active or passive; no inflammation; and, of course, no alteration of structure in an irritable uterus, even after the lapse of years. Congestions and inflammations, when found, are complications, sometimes the result of the nervous excitement of the organ, but frequently adventitious and secondary, or accidental."—p. 99.

The above extracts seem to us to indicate with sufficient clearness what Dr. HODGE considers the "keystone" of gynæcology, or, to use another figure, what hobby he rides.

It is apparently Dr. HODGE's idea that the great advantage of adopting the "irritable uterus" theory is, that it opposes an antiphlogistic treatment; but not to insist upon the point that in certain classes of uterine disease a treatment directed against inflammation has been found eminently successful, we must remind him that now-a-days inflammation is not always met with what has been called antiphlogistic treatment, and that Dr. HUGHES BENNETT, whom he particularly disapproves, has been very influential in introducing new ideas on this subject.

In conclusion, we can not recommend this book to those who are desirous to learn the present tendencies of gynæcology, the real advances that it has made, the best methods of examination, or the diagnostic meaning of the more recently appreciated symptoms. But it seems to us very valuable for much sound information on the subject of pessaries, and that the younger men especially can read it with advantage to prevent too exclusive attention to local treatment, and to temper their enthusiasm for the attractions of modern brilliant uterine surgery.

C. E. B.

REFLECTIONS ON ORGANIZATION; or Suggestions for the Construction of an Organic Atomic Theory. By HENRY FREKE, A.B., M.B., etc., etc. Dublin, 1848. 8vo., pp. 80.

ON THE ORIGIN OF SPECIES by means of Organic Affinity, By H. FREKE, A.B., M.D., etc., etc. London, 1861. 8vo., pp. 135.

AN APPEAL TO PHYSIOLOGISTS AND THE PRESS. By H. FREKE, A.B., M.D, etc., etc. Dublin, 1862. 8vo., pp. 34.

These works have been received from the author. In the "Appeal," Dr. FREKE claims that doctrines which he presented to the public in 1848 have since been advanced as novel by Mr. DARWIN, Dr. HUGHES BENNETT, Prof. BEALE and Mr. SAVORY; and that, while these gentlemen have received credit for these doctrines, he himself has been entirely ignored.

We find Dr. FREKE's mode of expression peculiarly obscure and apparently mystical, and hence we can not at present venture an opinion as to the justness of his claim. However, we

find that Dr. HINTON in his letter, contained in this number of the Journal, makes claim for Dr. FREKE of priority over Dr. WATTERS in his "Doctrines of Life." We feel confident, therefore, that our readers will soon learn something more definite regarding the doctrines of Dr. FREKE from the pen of Dr. WATTERS; and if it should turn out that he has been unjustly ignored in England, we are no less confident that his claims will be justly considered here.

G. B.

THE ANATOMY AND HISTOLOGY OF THE HUMAN EYE. By A. METZ, M.D., Professor of Ophthalmology in Charity Hospital Medical College, Cleveland, Ohio. Philadelphia: Published at the office of the *Medical and Surgical Reporter*. 1868. 8vo., pp. 184. Price, $2 50.

This book, so far as we have examined it, is a collection of almost verbatim extracts from recent European authors. The basis of the book is the introductory chapter of the well-known *Lehrbuch der Augenheilkunde*, by the late Prof. PILZ of Prague, with the addition and substitution of numerous selections from the *Archiv für Ophthalmologie*, WECKER'S *Etudes Ophthalmologiques*, and a few other sources. Much of the material selected is good, and tolerably well chosen, and its translation into English would be a useful and commendable work if properly accredited to the real authors; but, as it is, a reader not already familiar with the literature of the subject has no means of knowing whether he is reading from PILZ or some other authority, or merely from Dr. METZ. If the book were honestly put forth as a translation from PILZ, with additions from later authors, and with remarks by the translator and editor, duly marked by brackets or otherwise, it would have claims on us for criticism upon its merits; but, as it is, we can only pronounce it a bare-faced plagiarism, and a plagiarism whose intent is rendered the more glaring by the careful accrediting of most of the illustrations to their real or supposed authors, and by the insertion of a "list of authors consulted."

J. G.

THE SCIENCE AND PRACTICE OF MEDICINE. By WILLIAM AITKEN, M.D., Edinburgh, Professor of Pathology in the Army Medical School. 2d American, from the 5th, enlarged and carefully revised, London edition. With large additions by MEREDITH CLYMER, M.D., etc. In two volumes: with a map, lith. plate, and numerous illustrations on wood. Vol. I. Philad.: Lindsay & Blakiston. 1868. 8vo., pp. 927. (Price of the two volumes, $12 00.)

[For sale by Keith & Woods, 219 North Fifth Street, St. Louis.]

Within a remarkably short time after the issue of the first American edition of this comprehensive work, we are called upon to attest its value by announcing a second. It is the reprint of a new English edition, to which the American editor has made considerable and important additions. In his first preparation of the work for the American publisher, Dr. CLYMER introduced similar *improvements* upon the London issue, for which he, at the time, received the heartiest acknowledgments from the medical press. It is the more incomprehensible and painful to notice, that the author of the work embodied most of the American editor's additions in the text of his fifth edition without the faintest allusion to Dr. CLYMER. It is difficult to overlook this mark of illiberality and narrowness, which we trust Dr. AITKEN will, in a future edition, endeavor to expunge.

The author's preface, bearing date of April, 1868, advises us that in his fifth edition the articles on malignant cholera, paralysis, epidemic meningitis, and intestinal obstruction, have been rewritten, and the subjects of locomotor ataxy, progressive muscular atrophy, glosso-laryngeal paralysis, aphasia, dilatation of the bronchi, and the application of the sphygmograph, have been introduced. The new articles now prepared by Dr. CLYMER have a still wider range, embracing some very important subjects, such as cholera infantum, hereditary syphilis, gonorrhœal rheumatism, etc. These and his other additions are too numerous to repeat; they show unmistakably that Dr. CLYMER's office has been no sinecure.

The selection of material from the progressing sciences of the day, as far as we can judge from this volume, has been eminently judicious. Yet some instances strike us as a little indiscreet. For instance, several pages and a lithographic plate (the only one in the volume) have been devoted to HALLIER's doubtful discoveries of the cholera fungus, which thus far are unsupported by other authors, and called in question by very many; while no

attention has been paid in the chapter on suppuration to COHNHEIM's important experience as to the formation or source of pus, known since July, 1867, generally accepted as true, and repeated and confirmed by a number of experimenters. The hazard incurred in receiving the latter into a textbook as a matter of fact would be a thousand times less than the risk which Dr. AITKEN runs of promulgating an error, in giving so prominent a place to HALLIER's experiments.

The work has thus been brought up to an enormous compass, and in completeness is surpassed by none in the English language but perhaps REYNOLDS' *System of Medicine*, over which it has the advantage of greater uniformity and homogeneousness.

It will be unprofitable to enter into an analysis of the work before we have received the second volume. But there is one feature introduced into the present edition which, we will briefly notice, namely, the new "provisional nomenclature" adopted by the Royal College of Physicians of London. The plan of this nomenclature is, first, "to give an English name to the disease, employing the terms in popular use whenever they are not absolutely inaccurate; and to use only one word, or as few words as possible, in *naming* a disease. Secondly, to give a classification based upon anatomical considerations, namely,—*General Diseases*, or such as affect the whole frame, subdivided into Sections A (zymotic diseases) and B (constitutional diseases); and *Local Diseases*. This classification (in the English nomenclature) is given entire in Dr. AITKEN's work, occupying about 25 pages. If we accept the principle of anatomical classification, we have every reason to be satisfied with the work accomplished, though even here we meet with a few instances of what we must consider errors in principle. Thus among the subheads under which Local Diseases are distributed according to anatomical systems, we find, among the rest, "diseases of the *cellular tissue*." The divisions entitled "diseases of the female breast," and "diseases of the male mamilla," are made to occupy the same rank as those which enumerate the diseases of the nervous system, of the respiratory system, etc., while they would seem to have found a more appropriate and humble place among the diseases of the generative system. This table must be strictly considered, as it is officially styled, a *provisional* nomenclature, and not as a permanent and invariable nosological standard. Its defect is a radical one,—unavoidable because it arises from the incomplete-

ness of our science. Disease, it has been said, is the manifestation of life under abnormal conditions. In a given organism, the same deviation from the normal conditions of health must produce the same result: the same disease. This deviation, this abnormal condition, is the "cause" of the disease. Knowing the cause, therefore, and its mode of operation, we would know the disease. Unfortunately, we do know extremely little of the etiological conditions of disease; medicine would become an exact science, at least as much so as anatomy and physiology, if we had certain knowledge of the cause of diseases; and this alone can ever make it so. Hence, in our estimation, a definite and immutable nosological system can be constructed only on the basis of a perfect etiology. The time has not come for attempting this; perhaps it is far distant, and we must content ourselves meanwhile with "provisional" classifications.

The *extérieur* of the volume is elegant; it is among the best productions of Lindsay & Blakiston's press.

G. B.

A THEORETICAL AND PRACTICAL TREATISE ON MIDWIFERY, including the Diseases of Pregnancy and Parturition. By P. CAZEAUX, Member of the Imp. Academy of Medicine; Adjunct Professor in the Faculty of Medicine in Paris; etc., etc. Revised and annotated by S. TARNIER, Adj. Prof. in the Faculty of Medicine in Paris; etc., etc. 5th American, from the 7th French edition. By. WM. R. BULLOCK, M.D. With 175 illustrations. Philadelphia: Lindsay & Blakiston. 1868. 8vo., pp. 1124. Price: cloth, $6 50; leather, $7 50.

[For sale by Keith & Woods, 219 North Fifth Street, St. Louis.]

The very high reputation which CAZEAUX' excellent and comprehensive—almost encyclopedic—treatise on the science and art of obstetrics has always enjoyed in this country (thanks to the American translator) would relieve us from writing a single word, beyond the bare announcement, in order to introduce the 1124 closely-printed pages of this latest edition to the favorable notice of our readers, were it not that the seventh French edition, of which the book before us is a translation, has been so thoroughly revised and enlarged, that it is, as the annotator avers, "so to speak, a new one."

The decease of Prof. CAZEAUX taking place after the sixth edition was almost exhausted, Prof. TARNIER was entrusted with the preparation of another. By repeating a few passages from

the preface of this editor, we can best inform the reader of the nature of the changes the work has been made to undergo: "A classical book," says TARNIER, "soon grows old in these days, and it was found impossible to bring out a new edition without subjecting it to the alterations demanded by the progress of science. . . . Out of respect for CAZEAUX's memory, it was decided that the printing should be done in two kinds of type; the larger for the old text, and the smaller for what I had myself written.—The reader will readily distinguish what belongs to CAZEAUX and what to myself, but the work has been resolved into a homogeneous body without contradictory annotations. This last result could not possibly have been attained without retouching the old text, by which a new direction and meaning has been sometimes given to the original ideas. Should it be desired to know certainly what CAZEAUX's opinions were, it will, therefore, be necessary to consult an old edition.—Especially have I made it a duty not to change the spirit in which the work had been conceived" . . . , etc.

The labor of Prof. TARNIER has been diligently and conscientiously performed; his additions are numerous, extensive, and judicious, and form, with the original, "a homogeneous body," so that the reader's attention is not drawn off by incoherence of text or abrupt intercalations.

A book has thus resulted, unquestionably of the highest excellence, comprehensive in scope and detail, perhaps too much so for the beginner, but the very best work of reference on which the practitioner can rely.

G. B.

CONSTIPATED BOWELS: the Various Causes and the Different Means of Cure. By S. B. BIRCH, M.D., M.R.C.P., London, etc. From the 3d London edition. Philadelphia: Lindsay & Blakiston. 1868. 12mo., pp. 181. Price, $1 25.

[For sale by KEITH & WOODS, Booksellers, 219 North Fifth Street, St. Louis.]

We have been unable to discover the date of the first English edition of this book. The second appeared in 1863. Its author lays himself open to a little ridicule by some whimsical disclosures that he makes to the public. In his preface he delicately states, that he has had many opportunities of observation "through peculiar circumstances." If our curiosity is piqued by this phrase,

it is gratified by discovering (page 16), that the doctor is of constipated parentage, and, moreover, that he himself "has had, *in his own person*, but too much experience of hereditary tendency to constipation." We learn also that his family connection is "tolerably large," but has been constipated "far beyond the average." We were quite unprepared for this inside view of the Birch family, and notwithstanding the pathos of his sentence on these "sympathetic and homefelt influences," we scarcely think they can be grateful to their indiscreet relative for placing them in this historic attitude.

Another peculiarity of the author is lugging in school-boy Latin and unnecessary French words. Our old acquaintance, Scylla and Charybdis, appears twice; Cloacina's temple is duly brought in, and he manages to introduce the list of the cities that contended for the birth place of HOMER.

For much of this cheap ornament we think the author must have studied the collection of foreign phrases in the appendix of his pocket dictionary. We congratulate him on his expression "*apropos* in relation to" (page 19). We have nothing farther to say on these minor points, except that the book is much disfigured by profuse italics, and the singular negligence of the proof-reader in the matter of spelling.

Under the head of causes of constipation, the author gives us little that is new. He enlarges in pretty nearly the customary way on the abuse of aperients, which, he says, is the most fruitful source of chronic constipation; on luxurious and indolent habits; on torpidity of the liver; on neglect of regularity in defecation, or nervous anxiety regarding it; on atony of the intestinal canal; on deficiency of moisture; on mechanical causes, and finally on special conditions connected with infancy and old age.

He does not enter deeply into the physiology connected with his subject, saying in his remarks on torpid liver as a cause: "While we take every opportunity of extending our knowledge in the scientific direction, we must nevertheless mainly depend upon clinical observation and well-ascertained natural laws; chemistry and the microscope being accepted as modest, though valuable and ever-present subordinates." Further comment on this portion of the book is perhaps unnecessary, and we pass on to the therapeutics, which is much the more valuable part. Here, too, general principles are enforced with much good sense

and energy. First: Every known efficient remedy is to be made use of on the proper occasion, although it may be specially claimed by some school of irregular practitioners. Second: Not one dose of medicine, whether tonic, aperient, or of other kind, should be given beyond the real requirements of the patient. In regard to the use of cold water, we have read with great interest what he has to say on the use of local packings in case of torpid liver; also on the abdominal douche, and large draughts two hours after eating. He rescues from the kinesipath kneading of the abdomen, and speaks well of deep pressure carried along the course of the colon. He commends highly the hot air or Roman bath in some cases, and is not afraid to prescribe very small doses of certain medicines, which he thinks he has found useful.

His most striking novelty in treatment is the use of oxygen gas by inhalation or in water, in cases of obstinate constipation from hepatic derangements, on which he read a paper before the British Medical Association at Liverpool, in 1859. We should have liked the detailed reports of a few cases treated in this manner.

The author is clear and forcible on the subject of the use of purgatives in young children, showing the harm that is done by them, and the folly of making them necessary by unnatural diet and calmative medicines containing opium.

We will merely say, in conclusion, that the reader of this little book will find in it much that is practically valuable in the treatment of a disorder whose importance is increased by its frequency. C. E. B.

A MANUAL ON EXTRACTING TEETH. By ABRAHAM ROBERTSON, D.D.S., M.D., etc. Second edition. Philadelphia: Lindsay & Blakiston. 1868. 12mo., pp. 200. Price, $1 50.

[For sale by Keith & Woods, Booksellers, 219 North Fifth Street, St. Louis.]

The subject of Dr. ROBERTSON's little manual is that branch of dentistry which can never be confined to the practice of the specialist, but must ever be to some extent a part of the general practitioner's duties. In smaller towns and in country practice, the extraction of teeth can not always be done by dentists. The work before us therefore serves a useful purpose, being, as we might say, a textbook on dentistry for the general practitioner.

It does so in a very skillful and thorough manner, treating of the anatomy of the jaws and teeth, the pathology of toothache, on extracting instruments and their uses, on lancing the gums, etc., and getting over a subject, usually considered dry, in a most interesting and pleasant way.

The wood-cuts are coarse, but serviceable for illustration. The mechanical execution of the book, thought not at all elegant, is very fair. G. B.

A HANDBOOK OF VACCINATION. By EDWARD C. SEATON, M.D., Medical Inspector to the Privy Council. Philadelphia: J. B. Lippincott & Co., 1868. 12mo., pp. 383.

[For sale by KEITH & WOODS, 219 North Fifth Street, St. Louis.]

The author of this book has been for many years, from his official position under the British Government, specially interested in the subject of vaccination. His continuance in office has resulted in the enriching of medical literature by this interesting and valuable work, which he has written as a text book on the science and practice of vaccination, and also to assist Boards of Health in their duties with regard to small-pox.

Beginning with the disease in the cow, in which he says he chiefly follows the comprehensive and accurate accounts of ROBT. CEELY, he gives a few pages to analogous disorders in the horse, sheep, and camel. From the relation of these diseases to human variola, he proceeds to a description of vaccinia or cow-pox in the human subject,—its normal course; how it may be accelerated or retarded; how it may be modified by other diseases in the system; its varieties when induced directly from the cow—treating the whole subject pretty thoroughly, though briefly.

With regard to the health of the child to be vaccinated, after stating that "it is well known that syphilis and scrofula do not prevent the system from receiving the vaccine influence in the normal way," he adds: "The diseases which most decidedly contra-indicate vaccination are (besides acute febrile diseases) diarrhœa and cutaneous diseases, especially cutaneous diseases of the vesicular type, as herpes, eczema, and intertrigo." The vaccinator, he says, should never neglect to look well for chafing behind the ears, in the folds of the neck, or in the groins before he vaccinates a child. But if the patient be in immediate risk

of small-pox, it will not be wise to observe strictly JENNER's rule, "to sweep away *all* eruptions from the skin previous to inserting the vaccine lymph."

Plump and healthy children in large towns should be vaccinated when a month or six weeks old, but if they are in delicate health or living in rural districts, it may be allowable to delay until they are six or seven months old.

With regard to the rule of vaccinating all unprotected persons in a house or family in which small-pox has broken out, he says: "As the incubative period of small-pox is twelve days, while the time requisite to bring vaccination to the stage of areola is only nine days, vaccination performed any time within the first three days will reach areola soon enough to produce its protective power; after this, whatever the local success of the vaccination, no constitutional protection will be imparted." "But no prudent practitioner, vaccinating under these circumstances, will commit himself as to the protective value of his vaccination until he sees the areola completely formed."

Limpid but somewhat viscid lymph taken on the eighth day, from a perfectly healthy child, before the areola is fully formed, should be used, and no method of introducing it is to be more highly recommended than that by parallel scratches, whether crossed at an angle by other parallel scratches or without the crossing, but the other methods are discussed and given in detail.

There is much interesting matter on the protective power of vaccination. Thus, we learn that observations made for twenty-one years in Bohemia, on four millions of people, show that "the death-rate among vaccinated persons, who happened to contract small-pox, was found to be but 5 1-16 percent, while the death-rate from the same disease in persons who were unprotected, was 29 4-5 percent," and we must remember that this estimate does not concern the very large number of persons who were protected from having the disease at all. In England and Wales, "notwithstanding a very serious amount of neglect, and an average performance of the operation susceptible of very great improvement, it has reduced the death-rate by small-pox to one-fifteenth part of what it was at the close of the last century."

Revaccination should be performed on all persons after puberty. "The utility and necessity of revaccination do not stand on any speculative reasoning from the local phenomena it develops, but

upon broad grounds of observation and experience." Subsequent repetitions he does not approve of.

The final chapter is on the objections to vaccination. Syphilis can be, and undoubtedly has been, by malpractice, inoculated from syphilitic sores, but his examination of the discussion, and the cases presented in France and Germany on this subject, does not give him sufficient evidence that a properly performed vaccination can produce such a result. "During the eight years in which there has been systematic inspection of public vaccination in England, some millions of vaccinations have been performed, but the inspectors have no knowledge of any such accident having occurred in any one instance."

With regard to the risk from inducing erysipelas, he says that fifty-six thousand lives at least are on the average saved annually from small-pox in England and Wales, while the instances of children dying from erysipelas, consequent on vaccination, are excessively rare.

We have necessarily made no allusion to many subjects treated in this book. Its readers will find clearly stated in it the results of much observation, and we especially recommend it to all public vaccinators who desire to perform their duties properly

C. E. B.

THE PHYSICIAN'S VISITING LIST FOR 1869. Philadelphia: Lindsay & Blakiston.

THE PHYSICIAN'S HAND-BOOK FOR 1869. By W. ELMER, M.D., and A. D. ELMER, M.D. New York: W. A. Townsend & Adams.

[For sale by Keith & Woods and the St. Louis Book and News Co.]

Both of these useful and indispensable aids to practice have already been issued. They are known to nearly all practitioners. The choice between them will depend almost entirely on individual taste. We prefer, personally, the first named,—from habit, and for its simplicity; many of our medical friends choose Elmer's Handbook,—from habit, and for its completeness. The latter embodies, besides the record of practice and an account-book, 114 pages of closely printed text, giving an outline of diseases and their treatment, and a synopsis of remedial agents and their doses, both adapted for ready use. In Lindsay & Blakiston's Visiting List, the few pages of text are confined to directions for "Marshall Hall's Ready Method," and a table of poisons and antidotes,—memoranda for immediate reference only.

Extracts from Current Medical Literature.

OBSTETRICS. DISEASES OF WOMEN.

7. *A Case of Vaginal Atresia and Absence of Menstruation cured by the use of Tangle-tents.* By W. MURRAY, M.D., M.R.C.P., Lond., etc.

[*British Medical Journal*, July 4, 1868.]

Miss A. B. C., a young lady, æt. 27, slightly marked with the pits of small-pox, consulted me fifteen months ago. She complained of a severe pain in the hypogastric region, and radiating pains in the back, loins, and lower extremities. She had suffered in this way for some years, and she said her pains were periodically increased at intervals of five or six weeks. On further investigation, it appeared she had menstruated only once or twice in her life, and that the show scarcely amounted to a teaspoonful on each occasion. On proceeding to examine the uterine organs, I was surprised to discover that the vagina was a mere *cul-de-sac*, an inch deep, terminating in a conical depression. The walls of the *cul-de-sac* were made up of cicatricial tissue; and at the fundus of the depression in which the *cul-de-sac* terminated, I detected a minute opening* through which a No. 1 elastic bougie would scarcely pass. In order to make a further diagnosis of the case, I determined to introduce a tangle-tent into the minute orifice I had discovered, and then to pass the uterine sound through it. This was done; and on passing the sound, I introduced my finger into the rectum and felt the point of the instrument projecting through the solid barrier in the vagina into a cavity above. Beyond this upper part of the vagina I could feel a round body very like the uterus in size and shape. As the dilatation had caused some pain, and as no immediate result followed it, the patient and her friends declined further interference at this time, and I did not see her again until August last. I then found her suffering as before, and very much altered in appearance; her countenance was haggard, her manner hysterical, and her nutrition impaired by constant vomiting. She was now prepared to go through any kind of treatment to obtain relief.

Having obtained the assistance of Mr. J. B. FIFE, whose advice and surgical skill proved invaluable throughout the whole procedure, I dilated

* I must mention the existence of several large pits near the vulva. These, the patient's mother remembers, were the result of small-pox, from which her daughter suffered when she was two years old.

the small opening running through the closed portion of the vagina, until it admitted the tip of the little finger. At this point an accident occurred, from the string attached to the tent having given way, leaving the tent firmly impacted in the newly formed canal, where it remained for about thirty hours, when Mr. FIFE removed it by making a slight notch in the canal on each side of it. When the tent was removed, the finger could be freely passed through the opening it had formed into the upper part of the vagina, and there we found a somewhat contracted but perfectly formed cervix uteri. The dilatation was now continued freely by sponge-tents until a large speculum could be passed into the vagina. The uterine sound was then passed, and a very minute os uteri was discovered by it. The sound, when twisted a little to the right, could be introduced an inch deep into the cervix uteri. This enabled us to secure the introduction of a small softened tangle-tent in the direction indicated by the sound, and by a little careful manipulation, the tent slipped almost overhead into the uterus. When this tent was withdrawn the next day, a very free passage into the uterus remained. Both the vagina and the uterus now showed an obstinate disposition to contract and assume their former condition, so that we were compelled to incise the cervix uteri freely with Greenhalgh's hysterotome, and to keep both the canal of the cervix and the vagina constantly dilated for some days.

Exactly one month from the time the hysterotome was used, the menstrual flow appeared and continued for three days. In every respect the period and the flow were normal. From this time the patient improved rapidly in general health. At the end of another month, finding the os uteri slightly contracted, I introduced a tent for a few hours, and gave the patient two doses of aloes. After this, the menstruation again took place, but it was unfortunately stopped by a severe fright received by the young lady during the following night. From this time all went on well till another month elapsed; then she began to suffer pain, to vomit, and to assume a hysterical manner, but after waiting patiently for a few days, relief of all these symptoms was obtained by the reappearance of menstruation for the third time. On this occasion, it was full, free, painless, lasted five days, and left the patient quite well, without ache or pain. Six or eight menstrual periods have now occurred; for the most part they have been very satisfactory, and on each occasion they have been followed by great improvement of the patient's health.

The chief point of interest in this case is the entire abeyance of the menstrual functions of the uterus during a period of at least fourteen years from the age of puberty. The entire want of action previous to the dilatation of the parts was proved by the total absence of retained menstrual fluid. I might add that it is quite clear the closure of the vagina was produced by the extension of small-pox into the vulva, and subsequent ulceration of the walls of the vagina. The case strongly commends the use of dilatation instead of cutting in cases of closure of mucous canals of all kinds; and where no opening exists to permit of this, I should introduce a fine trocar, and then leave a tangle-tent in its place as a commencement of the dilating process.

In a subsequent communication, I hope to draw attention to the cure of false anus by the use of tents, and to show that by stretching such fistulous openings, we can rely upon such an amount of contractile inflammatory action being set up as to close them.

8. *On the Various Methods of Local Treatment of Uterine Hæmorrhage.* By Prof. F. WINCKEL, Rostock.

[*Schmidt's Jahrb.*, 1868, CXXXVIII, 183; from *Deutsche Klinik.*]

The most frequent local use of remedial agents against menorrhagia and metrorrhagia recommended by all gynæcologists is—

1. Their application by injections into the vagina. The ordinary remedies, used as hæmostatics, are oak-bark, cuprum aluminatum, cupri sulphas, alum, pyroligneous acid, matico, tannin, zinci sulphas, *e. a.* The patient should lie down while making the injection, so that the fluid may not too rapidly leave the vagina. This mode of arresting hæmorrhage is suitable for menorrhagia, with erosion of the os or neck of the womb, in cases of carcinoma, and of cancroid of the vaginal portion, because in these cases the bleeding spots are reached directly, but it has the disadvantage that it touches the healthy parts of the vagina at the same time, and that the remedies therefore can not be applied in a concentrated solution.

2. The remedies act more powerfully when applied, by aid of the speculum, directly to the bleeding spots, either in solution or in the form of powder. Besides the above, we may here mention two other remedies especially: the liq. ferri perchloridi, and the actual cautery;—nitrate of silver is inferior to either of these in intensity of effect. The two remedies named are especially suitable in bleeding from cancroid and cancerous ulcers. The hot iron, moreover, is an excellent means in profusely bleeding papillary erosions, and may be used at white heat in the shape of a disk of the size and thickness of a shilling fastened to the end of an iron rod.

3. Tamponning the vagina, either with the colpeurynter filled with ice-water, or by tampons impregnated with astringent lotions, is recommendable in some cases; thus it may occur, *e. g.*, that after the removal of growths on the lips of the os very considerable arterial hæmorrhages occur, which can be arrested in no other way than by tamponning the vagina.

4. The introduction of sticks of alum, tannin, sulphate of

zinc, solution of perchloride of iron. Two drachms of gum tragacanth are combined with from two to five grains of the said remedies, and, to promote solubility, with 15 or 20 grains of sugar. The action of these sticks is much stronger than the corresponding solutions as used for injections.

More frequent and more important are the hæmorrhages from the cavity of the uterus proper. There is no doubt but that, in cases of profuse menorrhagia, *e. g.* from tumors, especially myomas, far too much time is usually wasted in the application of astringents *in vaginam*, and the severe hæmorrhage suffered far too long, because of the dread of bringing the remedy directly into the uterus. It is to be hoped that this dread will disappear more and more, as the conviction becomes general that the methods to be detailed are absolutely safe if practiced *lege artis*.

5. Injections into the uterus are best made by means of Braun's syringe, or a similar one, employing alum, tannin, pyroligneous acid, or liq. ferri sesquichlor.; care should be taken that the fluid to be injected be not too cold, that the os be wide enough, so as not to impede the return of the fluid, and that the injection be made slowly; by cautiously observing these rules, no considerable reaction will ever be seen to occur.

6. Plugging the uterus with laminaria or gentian; the tents of gentian have this advantage, that the root occurs in thicker pieces, and that they do not slip as easily as the laminaria, especially if the bark be left on them. They are introduced either in long bougies or by the aid of Braun's forceps, twice daily, according to the degree of the hæmorrhage.

7. The introduction into the uterus of sticks of tragacanth with 10 or 15 drops of liquor ferri, and—

8. Of a stick of gentian partially soaked in liq. ferri, operating as a styptic upon the bleeding surface at the same time that it exerts compression.

9. *On Granular Inflammation of the Cervical Canal of the Uterus.* By FLEETWOOD CHURCHILL, M.D., President of the King and Queen's College of Physicians in Ireland.

[*British Medical Journal*, Jan. 4, 1868.]

I think the best illustration of the disease I can give you is the granular inflammation of the conjunctiva—granular ophthalmia as it is called. The disease consists in an inflammation of the mucous membrane of the

cervical canal and, it may be, of the uterine cavity also, attended by the development of granulations. When we examine carefully by sunlight, we find the lining membrane generally bright red, or, if much congested, of a purplish red, color; and can very plainly distinguish a great number of granulations, some very minute, others much larger, though never very large, scattered over or covering the surface.

Sometimes we find a granular condition of the cervix, with or without erosion. I have generally observed more or less vaginitis; it may be general or in patches; but I have rarely seen the vagina perfectly free from inflammation. I am not prepared to say whether this inflamed condition of the cervical canal is always a consequence or continuation of inflammation of the mucous membrane of the vagina, or a portion of it; but I think it very probable. I have, at any rate, seen granular vaginitis along with the same affection in the cervical canal.

Another symptom is, I think, quite characteristic of this disease—viz., a wide open os uteri. Sometimes the finger may be passed as far as it can reach; in other cases only the point can be introduced; but, with very few exceptions indeed, it is much more patulous than natural. Now, in all these cases of patulous os uteri, if you carefully examine the mucous membrane, you will find intense redness and granulations, except at one or two places, it may be, from which the mucous membrane has been stripped.

But you will naturally ask me, how are we to examine the inner surface of the canal. There are two means of doing so.

1. By the speculum with bright sunlight. The cervix uteri is always more voluminous than usual, and can hardly be embraced by the end of the speculum; but, when brought as centrally as possible, the pressure closes the wide os uteri, and it appears simply a prolonged slit. If one lip be separated from the other, by a slight hook—I use the one with which Mr. SPENCER WELLS raises the peritoneum in the operation of ovariotomy—we can quite easily see into the canal a quarter or half an inch; and, if so much appear inflamed and granular, we may fairly infer that the remaining portion is so likewise.

2. By the endoscope. I am indebted to my friend, Dr. CRUISE for my first view of the cavity of the uterus and for instruction how to use the instrument. He has added to my obligation to him by promising to attend here and give information as to its use to any one who may wish to understand it. I have since repeatedly used the instrument, and by it confirmed the diagnosis I had made from a sunlight examination of the lower portion of the canal.

In most cases, the canal is open enough to admit of the tube being passed with great ease through it into the cavity of the uterus; in some cases, it would admit a much larger tube. If, however, it should be too narrow, nothing is easier than to dilate it with a tangle-tent or prepared sponge to any extent we please. Having passed the tube to the fundus uteri, sponged it out, and made our observations, we may turn its orifice to different portions of the cavity, and then, slowly withdrawing it, we can examine each successive portion of the canal, and there will be no

difficulty in distinguishing the inflamed from the healthy portions. The amount of information we obtain, or could obtain, through so small a tube (and I have no experience yet with the larger) is not great. I think the plate given by Dr. CRUISE of the inflamed mucous membrane of the bladder gives a sufficiently correct idea of this granular inflammation of which I am speaking. Portions are bright or deep red, and rough; other parts are paler and smooth; except in the severe cases, where we find no healthy progress of mucous membrane.

I have mentioned that I have seen a few cases in which the os uteri was not more open than usual, and in which I ascertained that granular inflammation existed. In such cases I have observed that the introduction of the sound in the gentlest manner caused some bleeding, or, in other cases, gave actual pain. If, in such cases, the canal be dilated with a tangle-tent, its granular condition may at once be ascertained; so that I regard these two symptoms—slight bleeding or pain when the sound is passed very gently—as conclusive. Reasoning *a priori*, I think we should expect to find the canal narrowed or closed, as the ordinary result of granular inflammation; but the opposite is the case in the vast majority of instances. Nor am I able to offer any scientific explanation; all I know is the fact, that of this disease the most unvarying accompaniment is an os uteri unusually patulous.

I have been thus particular in describing the anatomico-pathological peculiarities of the disease, because, as one might expect, the symptoms (properly so-called) are less distinctive, but have much in common with other affections of the uterus. There may be, and generally is, the usual aching pain in the back, with, possibly, some feeling of weight or bearing down. The menstrual flow is almost always increased, sometimes excessive, or recurring at short intervals and from slight causes. I recollect only one case where the opposite extreme was observed. There is always more or less leucorrhœal discharge, thinner, and white or yellowish, if there be vaginitis; thick and tenacious when the disease is limited to the canal of the cervix. When the speculum is used, we may see this stringy discharge hanging out of the os uteri, and it is sometimes difficult to remove it. When the disease is of long standing, it interferes, more or less, with the general health, giving rise to languor, listlessness, loss of appetite, and imperfect digestion. In addition, it is not less potent than other disorders of the uterus in exciting reflex irritation, of which, perhaps, the most common is ovarian pain and irritability of the bladder; very distressing while they last, but not absolutely requiring any special treatment beyond a vaginal suppository of belladonna or morphia, and which disappear as the cure of the disease progresses.

Upon one uterine function, gestation, the influence of a severe attack of granular inflammation is apt to be disastrous. It does not always prevent conception; but, in a great number of cases, it causes abortion. I have known a succession of miscarriages apparently result from this cause alone; and I think that, in all cases of the disease, no risk of impregnation should be incurred. It will be wise also, in any case of

abortion, to examine into the condition of the canal after the lochial discharge has ceased.

Diagnosis.—After what I have already said, I need occupy very little time with the diagnosis. Our suspicions will probably be first excited, when making a digital examination, by finding the point of the finger pass more or less freely into the os uteri, and the inference from this will be turned into certainty by a sunlight or endoscope investigation. A little longer process will be necessary when the os is not patulous; the occurrence of pain when the sound is passed, or a drop of blood escaping afterwards, leave but little doubt, and that may be removed by dilating the os with tangle, and a subsequent careful examination.

Treatment.—The disease is curable enough, and the course of cure steady but slow. It must be for such cases that the different kinds of curette have been invented, to scrape off the granulations. This does not appear a very scientific procedure, and I am sure you can cure this disease as effectually without it. The endoscope affords us a very nice and precise mode of applying remedies to any part, either of the cavity of the uterus or the canal of the cervix, without the risk of doing more than we intend, so that we may safely use stronger remedies than we dare in any other way. By this means, strong nitric acid, tincture of iodine, or lunar caustic, may be applied when we please, and to a greater or less surface as may be necessary, or if we wish to limit our treatment to the cervical canal, a smooth piece of deal may be dipped in the acid or the tincture, and freely applied. I have found it better to begin with a free application of strong nitric acid, so as to destroy the granular surface, and this may be repeated at intervals of three or four days, until we obtain a smooth surface. The vagina should be syringed with cold water, or chamomile tea, once or twice a day. After this, I dip a small twist of cotton-wool in tincture of iodine, and apply it to the entire diseased surface, twice a week, continuing the syringing as before. As the cure progresses, the lining membrane becomes paler and smooth, and the os uteri closes somewhat, but it is not restored to its natural size for some time. I have found a strong astringent applied to the inner surface, in the way I have described, the best aid, and with this view I have used with benefit both the pernitrate and perchloride of iron, at the same time syringing the vagina with a strong astringent.

I should strongly advise "separation" until the treatment is finished, as conception might seriously interfere with our procedure.

There is a disease which I meet with occasionally, which may possibly have some relation to the foregoing, but of this I am not sure. I mean a vascular tumor at the os uteri, exactly like that we find at the meatus urinarius. It varies in size from a pin's head to a raspberry, and, unlike the small polypi found in the same situation, bleeds on the slightest touch. So far as I know, it gives rise to no symptoms but menorrhagia. It can seldom be recognized by the touch, because of its small size and softness, but it is easily detected by the speculum. The cure is simple—excision by scissors, or Dr. Braxton Hicks' small wire *écraseur*, or torsion by Wilde's snare, and, subsequently, repeated cauterization.

10. *On the Symptoms of Incomplete Rupture of the Uterus.* By Prof. C. HECKER, Munich.

[*Med.-Chir. Rundschau*, May, 1868; from *Monatsschrift f. Geburtskunde.*]

In cases of complete rupture of the uterus the symptomatology is usually so characteristic, that its diagnosis meets with no difficulty. Not so in incomplete ruptures, when the mucous and muscular coats alone are torn, but the peritoneum remained intact. And yet the diagnosis of these accidents is highly important on account of the prognosis, because in these very cases the fatal termination is not only the usual one, but often occurs rapidly, entirely unsuspected.

External examination offers no abnormity, the child remaining in the uterine cavity, unless it be that the peritoneum is lifted up in belly shape by considerable masses of blood—assuredly a very rare case. Internal exploration likewise gives a negative result, mostly, because some part of the child probably covers the rent. Moreover, the lesion of function which characterizes the complete rupture—sudden cessation of labor pains—does not occur here, for ordinarily a regular, although feebler, non-expulsive, activity of the uterus continues to be observed.

The subjective phenomena which characterize complete ruptnre, *e. g.*, the sensation of "giving way" in the abdomen, the rapid collapse, etc., are also nearly always wanting, the subjective condition of the patient often being entirely undisturbed.

Every symptom contributing to assure the diagnosis is therefore highly desirable; and HECKER, basing his assertions on two cases, represents the following as such:—

(1) A more or less sudden acceleration and smallness of the pulse (the same as in complete rupture), which does not harmonize with the otherwise good condition of the patient; and—

(2) the development of a tumor in the anterior wall of the vagina pressing backwards and downwards, caused by the effusion of blood into the areolar tissue between the bladder and uterus or vagina, *i. e.*, by the formation of an extra-peritoneal ante-uterine hæmatocele.

HECKER, therefore, thus states his thesis:

"If in the course of a case of labor, perhaps already of an otherwise suspicious character, a rapidly increasing, firmly elastic tumor is formed in the anterior wall of the vagina, which can not be regarded as a prolapse or as a vaginal cystocele, the presence of incomplete rupture of the womb is highly probable."

11. *A Cause of Trismus Neonatorum.*

[*Med. Gazette*, Sept. 12, 1868; from *Monatsschrift f. Geburtsk.*]

In the city of Elbing numerous fatal cases of trismus neonatorum occurred in the practice of one midwife, namely 56 cases out of 235 births in 1864; and 43 out of 145 in 1865. The midwife was excellent in every respect, and had an immense practice. Every possible inquiry was made into the matter without success, and her management of the cord, and of every other circumstance connected with the child, was found correct and skillful; and the poor woman was very anxious to be set right, if she had been in the habit of making any mistake. Finally it was discovered that she used unusually hot water in the first washing of the infant, up to 31 degs, 33 degs., and over 35 degs. R. When this was rectified the cases ceased.

MATERIA MEDICA AND THERAPEUTICS—TOXICOLOGY.

8. *The Physiological and Therapeutical Actions of Caffein.* By Dr. LEVEN.

[*Archives de Physiologie*, 1868; p. 179.]

From experiments on animals, Dr. L. draws the following conclusions:

Caffein seems to directly excite the heart. In the first period of its absorption, the circulation and respiration are accelerated; the pulse is more frequent and more tense; the secretions are stimulated.

The central nervous apparatus, brain, spinal marrow, and nerves, are irritated.

The muscular system of animal life and of organic life contract violently. The muscles of the former system are the seat of trembling and of general contractions. The fibres of the stomach, intestine, and bladder, contract equally.

In the second period of absorption, the heart's movements become slower, the frequency and tension of the pulse are lowered; the muscular system is fatigued, but not paralyzed. The nervous system is also fatigued.

The excitation of the heart may be so violent that its beatings, after a time varying according to the animal operated upon, seem stopped.

Caffein does not entirely abolish reflex action, nor the properties of nerve and muscle.

Whilst being poisonous to the frog in a dose of one centigramme (about 1-7 grain), to the guinea-pig in a dose of 15—20 centigr. (2 1-2—3 grs.), to the rabbit in three or four times that dose, it may be administered to man in a dose of several grammes without accident.

It is easily eliminated from the economy, and remains in it for several hours only.

The effects of caffein, the author goes on to remark, are undoubted, but opinions will not exactly agree until an exact idea is formed concerning its therapeutic properties. To obtain a clear conception of this, the caffein should be compared to the sulphate of quinine, which seems to possess nearly the opposite physiological properties. The sulphate of quinine seems to paralyze the cardiac ganglia and diminishes vascular tension; in retarding the circulation it excites vertigo, buzzing in the ears, and diminishes the reflex power of the cord. The effects of quinine do not amount to the production of a simple anæmia merely; it has a specific action on the upper part of the cerebro-spinal axis, and this explains to us the symptoms of intoxication by quinine (deafness and loss of speech). Quinine only prevents the febrile movement malaria would excite; and it operates only by previously modifying the dynamic state of the circulating organs.

Caffein, on the other hand, stimulates the heart and increases tension in the bloodvessels. It increases the circulation, excites the nervous centres; hence the trembling and the tetanic condition. It has also a specific action on the nerve-cells of the central organs. The mode of administration of caffein should vary according to the effect it is desired to produce. In a case of hemicrania or asthma, for example, it should be given in advance of the paroxysm, so that the attack may find the nervous system in the state of exhaustion ("*dans la détente*") of the second period above described.

The author then recounts the cases of disease in which caffein has been recommended, viz.: hemicrania, asthma, typhoid fever, dropsy (the remedy acting as a diuretic), and strangulated hernia (by its action on muscular fibre).

9. *The Physiological Action of Thein.* By Dr. LEVEN and H. J. PRATT. (Graduating Thesis, Mass. Med. College.)

[*Arch. de Physiologie*, 1868, p. 470.]

[*Boston Med. and Surg. Journal*, Sept. 10, 1868.]

Dr. LEVEN concludes, from his experiments on frogs, guinea-pigs, and dogs, that thein and caffein, though considered as identical by chemists, are distinct as regards their toxical action on animals, that of the former being less than that of caffein. Thein exerts an equal effect only by doubling the dose. It causes certain convulsive movements of the limbs which are not observed under the influence of caffein. Otherwise, their physiological actions are identical. [Cf. the preceding article.]

Both alkaloids seem to directly excite the heart and respiratory movements; they increase arterial tension. By exciting the circulation they stimulate the central nervous system, the brain and cord; but they do not destroy the properties of the spinal cord and nerves. The tetanic condition which they induce is due to the excitation of the cord. They do not abolish the properties of muscle; the heart is not arrested immediately after death.

Mr. PRATT's very able thesis for the degree of Doctor of Medicine embodies the results of quite extensive physiological experimentation. The conclusions are, in the main, in harmony with the above, but more definite, and seem to prove that thein "causes convulsions by augmenting the reflex properties of the spinal cord;" that it "diminishes the energy of the sensor nerves;" and that it "has a peculiar action on the voluntary muscles, causing their extreme and persistent contraction, and exhausting thereby all further irritability." But it is ***not by its action on the brain*** that thein causes convulsions, nor by any direct action on the motor nerves, whose functional activity is neither increased nor diminished perceptibly by it.

10. *On the Sedative and Hypnotic Action of Papaverin in Mental Diseases.* By Prof. MAX LEIDESDORF and Dr. H. BRESLAUER, Vienna.

[*Med.-chir. Rundschau*, May, 1868; from *Vierteljahrschrift für Psychiatrie*, 1868.]

The authors, induced by the daily demand for a sedative to

restless and sleepless patients to examine more minutely into the action of the several alkaloids of opium, have been particularly struck with the merits of papaverin. Three different basic substances derived from the poppy plant have been called by this name; the body here experimented on is the papaverin of MERK, occurring in commerce, though not always quite pure. This papaverin has the chemical composition: $C_{20} H_{21} N O_4$; it is nearly insoluble in water, and but little soluble in alcohol and ether of ordinary temperature, more so at a boiling temperature; it is soluble in 77 parts of amyl-alcohol, and in 37 parts of benzine. With acids it combines to form salts of an acid reaction, and but little soluble in water.

Previous opinions on the action of papaverin, as expressed by ALBERS, CLAUDE BERNARD, and REISSNER, were not encouraging. But Dr. BAXT, of St. Petersburg, had instituted experiments on this body at the Physiolog. Institute of Vienna, under direction of Prof. BRÜCKE, which were published in a memoir "on the physiological effect of some alkaloids of opium," presented to the R. Imp. Acad. of Sciences, and according to which the papaverin is regarded as an excellent soporific.

The experiments on animals made by the authors confirmed the results of Dr. BAXT. (The salt used was the muriate.) More important than these were the experiments on man.

The first opportunity which offered was the case of a young man (not alienated) suffering from cephalalgia and asomnia. He took 1-2 gr. papav. muriat. internally. After half an hour a feeling of weight in his limbs supervened, soon afterward the intense headache diminished, and after two hours he fell asleep for several hours. The weakness in the muscles continued the next day, the cephalalgia was removed, and the sleep in the following night undisturbed.

The same experiment was repeated on the same individual at another time with 1 grain, had the same result with like phenomena, only the duration of the sleep was longer. There did not occur either nausea, or vomiting, or oppression of the head, or vertigo,—in brief, no bad after-effect of any kind.

The authors began their experiments on the insane in those secondary forms which, by their occasional violent excitements, maniacal paroxysms, shouting, roaring, tumultuous conduct, and persistent sleeplessness, particularly called for the exhibition of an efficient sedative. In all these cases the hitherto usual seda-

tives, as warm baths, opium, morphine in rising doses, bromide of potassium, etc., had already been used, without much benefit, but not always without demonstrating the disadvantages of some of these remedies. The results arrived at may be summed up in the following points:

1. Papaverin has a somniferous action on man.

2. It diminishes muscular activity, and is of use in maniacs in this respect also.

3. It diminishes with certainty the frequency of the pulse, not only in those cases where it had risen in consequence of violent muscular action, but also in quiet, melancholic patients.

4. The calming effect of the papaverin is not preceded by a state of excitement.

5. Whether used subcutaneously or internally, it creates neither nausea nor vomiting, neither dizziness nor sense of oppression in the head; it does not cause constipation, but on the contrary in some cases relieves it.

6. The subcutaneous application of the muriate of papaverin has no bad consequences at the point of puncture or vicinity.

7. The effect of papaverin, as a rule, supervenes slowly, commonly four, or even seven, hours after its administration, and is wont to last for 24 to 48 hours or more.

8. Papaverin is efficacious in cases where opium and morphine remained without effect even in larger doses.

9. The patient does not become accustomed to the remedy, at least not soon, and therefore even a continued use of it does not necessitate an increased dose.

10. The effect of papaverin on the excitement, maniacal paroxysm, and asomnia, is palliative only; it has no direct influence on the mental lesion, or rather on the process which causes it.

11. After prolonged use of papaverin an improvement in the patient's nutrition takes place, owing to the greater tranquility and restored sleep.

11. *Therapeutic Uses of Iodoform.* By ERNEST BESNIER, Paris.

[*Schmidt's Jahrb.* CXXXIX, p. 29; from *Bull de Thér.*]

B. repeatedly had opportunity to observe the favorable action of iodoform in *syphilitic ulcers*, especially in *soft chancres*.

In the first case the application was made on a soft chancre of the glans, and on one inoculated upon the thigh. The pretty vivid pain was thereby alleviated in a remarkable degree, and rapid cicatrization accomplished. A second, similar case, in which cicatrization was delayed in spite of all the remedies used, likewise healed rapidly, after the application of iodoform, which was put on twice a day in the form of powder. In divers other cases of a similar nature, the author constantly observed an equally favorable effect, and he also especially recommends treatment by iodoform in ulcerations of the neck of the uterus and affections of the nasal and pharyngeal mucous membranes; in the former cases the remedy is best applied by means of a dry tampon dusted with iodoform, in the latter it is blown in.

It is employed, as has been mentioned, in form of very fine powder, which is applied by means of the finger or spatula upon the carefully cleansed surface, and properly covered, *e. g.*, with linen or tissue paper dipped in glycerine, or (on the glans) with goldbeater's skin.

The remedy is indicated wherever we have to deal with ulcerating, more or less inveterate wounds, with or without pain, in which cicatrization is in no wise disposed to take place.

12. *Sulphurous Acid in the Treatment of Pyrosis.* By Dr. LAWSON, London.

[*Medical News*, Oct., 1868; from *The Practitioner*, Sept., 1868.]

Sulphurous acid in the treatment of pyrosis is strongly recommended by Dr. LAWSON. In every instance, he asserts, in which it has been employed it has, in a very short time, completely arrested the waterbrash secretion. It checks the excessive secretion, stops the vomiting, and lessens the epigastric dragging pain so often complained of. Dr. L. considers, provisionally, that its good effects are due to the production of ozone and the destruction of vegetable germs.

The doses of the acid (B. P.) vary from ℥xxx to ʒi three times a day, shortly before meals. Bitter infusions may be employed as a vehicle, but plain distilled water is best.

13. *Lacto-phosphate of Lime in Dyspepsia.* By Drs. DUSART and BLACHE.

[*Med. Gazette*, Sept. 26, 1868; from *Bull. gén. de Thérap.*]

Drs. DUSART and BLACHE have been experimenting with the lacto-phosphate of lime in dyspepsia, and in ununited fractures. It has an

agreeable acid taste, is perfectly soluble in the gastric juice, the digestive powers of which it increases rather than impairs, and is rapidly absorbed into the system. Guinea pigs whose bones were broken, were found to increase thirty-three percent in weight, and reunion not only took place very rapidly, but all the bones in the body seemed to increase in size.

They suggest this remedy also in mollities ossium, in weakness and fragility of the bones, rickets, etc. In osteo-sarcoma it may limit the exuberant growth of the soft parts. In infantile dyspepsia and marasmus it is a useful remedy.

14. *Preparation of Quinine Pills.* By LOUIS E. ATKINSON, M.D.

[*Medical and Surgical Reporter*, Sept. 19, 1868.]

Dr. ATKINSON improves upon PARRISH'S formula for the preparation of quinine pills (by the addition of aromatic sulphuric acid), in the following manner:

I add to the sulphate of quinia a small quantity of tartaric acid, and, after thoroughly incorporating the two in a glass mortar, add a very small quantity of water or syrup.

The mass at once assumes a soft consistence, which is retained for some time, and admits of its being rolled, treated with drying powder, and otherwise handled, as the pilular mass made by other substances. This permanence gives one not skilled in pharmacy ample time to prepare the pills without haste; a *sine qua non* when uniformity of size is desired. Should the mass become dry, a little water or syrup will restore it to a proper consistence.

The formula which I employ is as follows:

℞		
	Quiniæ Sulphatis,	℈j
	Acid. Tartarici,	gr. iv
	Aquæ,	♏j.

Triturate the quinia with the acid until thoroughly incorporated, then add the water. Divide into any number of pills desired. If the acid is dry, this quantity of water is right; if it contains much water of crystallization, it is too much. The advantages of this formula are: 1st, the mass is tenacious, and easily worked; 2d, it does not readily lose its pilular consistence, thus enabling the operator to prepare a large number of pills at once; 3d, the bulk is small, being no larger than when made by PARRISH'S formula; and 4th, it can be prepared by any one possessing the most ordinary pharmaceutical skill.

15. *Poisoning by Strychnia successfully treated by Chloroform Inhalations.*

[*Bost. Med. and Surg. Jour.*, Aug. 27, 1868; from *Med. Times and Gaz.*]

A girl, four years of age, was admitted to the London Hospital, April

20, with well-marked symptoms of having been poisoned with strychnia. The account given by her friends was as follows:—Her grandmother had, half an hour prior to the child's being brought to the hospital, given to her a powder for destroying mice, in mistake for an ordinary rhubarb powder. The child very soon became convulsed, and had had two "fits." She had been taken to a chemist, who gave her an emetic, which did not act. She was then brought to the hospital. As the medical officer was engaged in the wards, to prevent any delay the case was seen by the house surgeon on duty, Mr. McCARTHY. The child was lying on her left side; there was well marked opisthotonos, the head being drawn very much backwards; her expression was very anxious; eyes widely opened; pupils dilated; lips livid and retracted; walls of chest fixed; respiration irregular; pulse weak, rapid, and almost imperceptible, and every muscle in the body in a state of incessant twitching. This last symptom became greatly aggravated whenever the child was touched. Chloroform was administered without delay, and the little patient became almost instantaneously insensible. The pulse became full and strong, the respiration regular, and the anxious expression of countenance disappeared. The child was kept under the influence of chloroform for an hour and a half. During the earlier part of this period, whenever the chloroform ceased to be administered, the slightest touch on any part of the child's body produced twitchings in every muscle. After about three-quarters of an hour, however, the orbicularis oris was the only muscle so affected. The child vomited a quantity of fluid, with some half digested food, about half an hour after admission. When the child had been kept insensible for an hour and a half, the chlorform was omitted, as the twitchings had not recurred for some time. On awaking, the child was perfectly sensible and composed, and with the exception of some occasional twitchings of the mouth and spasms of the arms during the day, had no unfavorable symptoms, and was discharged quite well on the third day.

A powder similar to the one she had taken was tested, and was found to contain strychnine.

16. *Position in the Treatment of Chloroform Poisoning.* By E. L. HOLMES, M.D., etc., Chicago.

[*Chicago Med. Examiner*, Sept., 1868.]

After relating his experience in several cases of chloroform inhalation, in which dangerous symptoms supervened and the patients were restored chiefly by being placed on an inclined plane, head downwards (by raising the foot of the operating table), Dr. HOLMES continues:

Whatever may be the obscure causes of fatal results from the use of chloroform, I believe the danger, in by far the larger proportion of cases, depends upon a tendency to death by syncope. To overcome this tendency, it is necessary to stimulate the nervous centres. This may be done

by causing a column of blood to press upon the vessels of the brain. It is not sufficient to remove the pillow from the head and place it under the hips. It is necessary that the whole body be placed upon a steep inclined plane, to force as much blood as possible, by gravitation, into the brain. I believe this is of more importance than any of the methods usually described by writers on the subject. It should take precedence to the withdrawal of the tongue, artificial respiration, galvanism, or stimulants. This remedy can always be applied without delay, and can be followed by any others which may seem desirable.

I have dwelt upon this subject of position, because so little is said upon it, either in the best works upon anæsthetics, or in the reports of the treatment in fatal cases, as found in medical journals. We have reason to believe that very few surgeons or obstetricians have ever placed a patient in the position described, in cases which threaten to terminate fatally.

17. *Case of Suicide by Carbolic Acid.* By GEO. WM. HARRISON, M.R.C.S., House-Surgeon to the Borough Hospital, Birkenhead.

[*London Lancet*, N. Y. rep., October, 1868.]

On July 15th, at 11 A. M., M. E., a married woman, aged forty-three, was admitted into the Birkenhead Borough Hospital, suffering from the effects of poisoning by crude carbolic acid, taken an hour previously with a suicidal intent. She was insensible, retching, the breathing stertorous, the pupils much contracted, and the pulse intermittent. There was a strong smell of the acid from her breath, and on opening the mouth the tongue and fauces present a white, corroded appearance. I was informed that, before being brought to the hospital, chalk had been administered. I immediately injected several ounces of olive oil by means of the stomach pump, and subsequently an emetic. Death ensued about noon.

Autopsy two hours after death.—On opening the body, there was a strong smell of carbolic acid. The œsophagus, dark gray in color, was singularly harsh to the touch, the inner coat tearing readily, and friable. The stomach, having been ligatured and removed, was found to contain seven ounces of brown flocculent fluid; the mucous membrane, for the entire extent, was grey, corroded, and easily rubbed off, being coated all over with so-called "Lister's carbolic putty," a combination of the poison with the chalk and oil which had been given. The duodenum presented a curious gradation of color, from dark gray at the pyloric end, lapsing into the bright-red appearance of inflamed mucous membrane. The jejunum was congested for about two feet, the remaining portion of the gut being healthy, as were the other viscera, abdominal and thoracic. The brain was slightly congested, and smelt almost as strongly of the acid as the other organs. I may add that the blood was incoagulable; an ounce which I retained is now, five days after death, in a fluid state.

18. *Two Simple Apparatus for the ready Detection of Phosphorus, Arsenic, and Antimony in minute quantities, for the use of Physicians.* By Dr. D. MÜLLER.

[*Med.-chir. Rundschau*, May, 1868; from *Berliner klin. Wochenschrift.*]

1. The first apparatus consists of a glass flask of about 100 cubic centimeters capacity, closed by a cork which is perforated by a slender glass tube at least 85 centim. high and 3 millimeters wide.

Some of the contents of the stomach (or other suspected substance) is introduced into the flask, water is added, and the whole boiled.

In the dark, the slightest trace of phosphorus will immediately cause a lightning-like, twitching phosphorescence,—even if only the hundredth part of the phosphorus of a match be present.

2. The second apparatus consists of a small test-tube capable of containing 15 cubic centimeters, half filled with dilute hydrochloric acid, and closed by a caoutchouc stopper. A second stopper of the same material is furnished with a glass tube 3 millimeters wide and about 4 centimeters long, bent at right angles, one end drawn out to a point about 1 mm. wide.

To test the contents of the stomach, a few pieces of thin sheet-zinc are put into the acid, so that a pretty strong evolution of hydrogen takes place, and the test-tube is closed after a few seconds with the stopper bearing the glass tube. The escaping stream of hydrogen is then lighted, and the flame held close to a cold plate of white china. If no spot is produced, the acid and zinc are proved free from arsenic. Some of the gastric contents should then be added, the vessel closed, and after a few seconds' escape of gas, the latter should be lighted and the flame again directed against the cold surface. If a dark spot shows itself, it is proven that arsenic or antimony is present in the contents of the stomach tested.

The arsenical spot can be easily distinguished from that produced by antimony by external marks. In case of doubt, a solution of chloride of lime or Javelle's fluid should be poured over the spot. If the latter is dissolved, it consisted of arsenic, if not, of antimony.

MEDICAL JURISPRUDENCE.

On Punctiform Ecchymoses in the Interior of the Body as a Proof of Death by Suffocation. By FRANCIS OGSTON, M.D., Prof. Med. Jurispr. and Med. Logic, Univ. of Aberdeen.

[*British Medical Journal*, Sept. 26, 1868.]

The accompanying table has been constructed with a view of throwing some additional light on the important points in dispute between the two celebrated French and German experts, TARDIEU and LIMAN (*Annales d'Hygiène et de Méd.*, tom. i, 2 s., No. 8, p. 371, No. 56, pp. 365 and 388, No. 57, p. 104; *Vierteljschr. f. gerichtl. und öff. Medizin*, Caspar u. Horn, i, 50, vii, 84, viii, 187 and 278, xix, 73), as to the diagnostic value of those minute effusions of blood on certain internal surfaces, known as punctiform or capillary ecchymoses; or from their respective seats, as subpleural, subpericardial, and subpericranial ecchymoses.

Of the 59 cases of sudden death here tabulated, all of them the subjects of medico-legal investigation, 13 were published in April last, in another connection. (Vide *Brit. and For. Med.-Chir. Review*, No. 82, p. 454.)

The spots or effusions in question, with the few and partial exceptions noticed in the table, were found to vary in size from a pin-point to a large pin-head, and in number from three or four to thirty or forty, in the respective localities.

In 52 of the cases, the blood-spots occurred on the surface of the lungs; in 31, on the heart; in 22, on the inner face of the scalp; in 18, on the pericranium; in 14, on the thymus gland; in 9, on the interior of the pericardium; in 8, on the root of the aorta; in 5, on the liver; in 2, on the skin; and in 4, singly, on the spleen, diaphragm, pulmonary artery, and pleura costalis.

In most of the instances, the minute rounded spots were in greatest numbers on the thymus gland, the lungs and the heart; their numbers, though still considerable, being, as a rule, fewer on the pericardium and scalp, while they were only met with in threes and fours on the liver, spleen, diaphragm, pulmonary and aortic arteries, and costal pleura. In one of the skin-cases, the ecchymoses appeared in a cluster over the cartilages of the fourth and fifth right ribs; in the other, they were massed in large numbers on the fronts of the neck and chest.

The ecchymoses on the scalp and pericranium differed from the blood-clots not unfrequently met with on turning down the scalp in infants perishing from determination of blood to the head in difficult labors; these last being of irregular forms, and of different sizes, up to half an inch and more in breadth.

The marked preponderance of the instances of these ecchymoses in early life will be seen from the table.

The *post mortem* inspections pointed more or less clearly to the *proximate cause* of death in each of the first 26 cases. Thus, in cases 1 to 26

inclusive, we find 11 presenting distinct and obvious traces of fatal violence; 4, more or less distinctly deaths by pneumonia; 2, by pulmonary œdema; 2, set down at the time as deaths from cold; 2, deaths by drowning; and the remaining 5 respectively, as deaths by hanging, pulmonary apoplexy, cerebral apoplexy, scarlatina, and heart disease.

The evidence pointing to the proximate cause of death in the 6 cases which follow was less satisfactory. It has been put down hesitatingly as bronchitis (?), from the observed amount of mucous fluid in the air-passages and air-cells of the lungs.

Cases 33 to 38 were obviously deaths from suffocation, as this term is usually understood; and, in 4 of them, in the form of it known as smothering.

Passing from these first 38 cases in the table to the last 21: in the absence of any of the usual morbid appearances which indicate the mode of death, we have nothing to guide us as to its cause, beyond the presence in these of the capillary ecchymoses. The light mucous froth, usually white, sometimes red, on which TARDIEU is disposed to rely as a corroborative sign, was certainly present in 17 of the cases; as were also the dilated air-cells in 1, and the submucous and subcutaneous contused appearances around the lips in 1—signs which this authority likewise regards as characteristic. But these appearances were equally met with in others of the cases which could not be set down as pure instances of suffocation.

It will be observed that 15 of the last set of cases were new-born infants; and the others, infants of from twelve days to fifteen months, averaging under two months.

The close resemblance of the last set of cases to the 6 set down as *presumably* deaths by bronchitis, deserves also to be noticed; but, for the amount and the extension to the air-cells of the lungs, both sets of cases must have occupied the same place in the table.

It likewise deserves notice here, that although punctiform ecchymoses are noticed as present in the cases where suffocation alone could not be justly predicated, it is when we come down to the lowest set of cases in the table, that the blood-spots become the most numerously diffused on the different surfaces.

But, besides the marked preponderance of these appearances, both as to frequency and variety of seat, in the last 20, as contrasted with the cases standing above them in the table, I think it important to state that, as far as my own observation extends, the cases at the top of the list require to be received as rare and exceptional instances of such appearances in the forms of death there noted. For instance, the 2 cases set down were the only instances of ecchymoses encountered in upwards of 200 drowned bodies; the 1 case the single instance in betwixt 40 and 50 hanged persons; while I have never met with ecchymoses after death by strangulation. On the other hand, it is but equally fair to state that I have sought in vain for the blood-spots in nine cases of announced deaths by suffocation; all, however, adults.

Without going so far, then, as to deny the occasional though rare occurrence of punctiform ecchymoses after deaths from other causes, or insisting on the necessary presence of these minute effusions of blood in every instance of death by suffocation, I am disposed to conclude that the discovery of such spots in the dead body, in considerable numbers, in well-defined shapes, and limited in size, on the heart, lungs, and thymus gland, especially in infants, either with or without other corroborative tests, and in the absence of other obvious morbid conditions, will afford the strongest presumptive evidence, if not absolute proof, of this special form of sudden death.

Meteorology at St. Louis.

METEOROLOGICAL OBSERVATIONS AT ST. LOUIS, MO.

By A. Wislizenus, M.D.

The following observations of daily temperature in St. Louis are made with a MAXIMUM and MINIMUM thermometer (of Green, N. Y.). The daily minimum occurs generally in the night, the maximum about 3 P. M The monthly mean of the daily minima and maxima, added and divided by 2, gives a quite reliable mean of the monthly temperature.

THERMOMETER FAHRENHEIT, 1868.

	SEPTEMBER.			OCTOBER.	
Day of Month.	Minimum.	Maximum.	Day of Month.	Minimum.	Maximum.
1	55.0	72.5	1	60.0	67.5
2	58.0	79.5	2	59.5	75.5
3	60.0	72.5	3	58.5	63.0
4	51.0	73.5	4	48.0	69.5
5	56.0	71.5	5	52.5	**76.5**
6	62.5	76.5	6	51.5	72.5
7	63.5	73.0	7	42.5	67.5
8	67.0	79.5	8	31.5	49.5
9	69.5	79.5	9	37.5	59.5
10	68.5	80.5	10	45.5	71.0
11	68.0	**84.5**	11	49.0	72.5
12	69.0	83.0	12	51.0	68.5
13	56.0	75.5	13	53.0	70.5
14	62.5	80.5	14	52.5	64.5
15	67.5	81.5	15	53.5	65.5
16	50.0	57.0	16	52.0	61.5
17	**40.5**	62.0	17	**31.0**	53.5
18	45.5	66.0	18	36.5	49.5
19	55.0	69.0	19	46.5	57.5
20	57.0	66.0	20	41.0	59.5
21	51.0	68.5	21	46.5	50.0
22	50.0	64.0	22	38.0	47.5
23	**40.5**	55.0	23	35.0	54.0
24	45.5	48.5	24	40.0	68.5
25	43.5	59.0	25	51.0	74.0
26	44.0	63.0	26	49.0	**76.5**
27	52.5	77.0	27	56.5	72.5
28	49.5	66.5	28	39.5	58.5
29	50.5	69.5	29	44.5	71.5
30	53.5	77.0	30	55.0	69.0
			31	40.0	45.5
Means....	55.4	71.0	Means....	46.7	64.0
Monthly	Mean...63.2		Monthly	Mean...55.3	

REPORT OF ATMOSPHERIC ELECTRICITY, TEMPERATURE, AND HUMIDITY.

BASED ON DAILY OBSERVATIONS at 6, 9, 12, 3, 6, AND 9 O'CLOCK, FROM MORNING TILL NIGHT, AT ST. LOUIS, MO.

1.—*Monthly Mean of Positive Atmospheric Electricity.*

Year	Month.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.	Mean in 8 years.	No. of Thunder Storms.	Prevailing Winds.
1868	Sept.	1.0	1.0	2 2	1.5	1.5	1.2	1.4	2.7	5	SE., S., NW.
1868	Oct.	1.8	3.0	2.6	2.9	3.9	1.3	2.6	6.3	1	NE., SE., SW.

2.—*Monthly Mean of Temperature, Fahrenheit.*

Year.	Month.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.
1868.	September.	59.2	64.5	69.9	71.6	66.0	63.2	65.7
1868.	October.	49.2	54.4	61.4	63.3	56.8	53.7	56.5

3.—*Monthly Mean of Relative Humidity.*

1868.	September.	80.0	73.4	62.8	61.3	75.0	85.0	72.9
1868.	October.	85.6	71.7	59.0	56.9	68.4	76.9	69.7

September, with its mean temperature of 63.2, was about 6 degrees cooler than the average, which is 69.4. But the quantity of rain that fell in September, 5.25 inches, is two inches more than its average, 3.25.

October was as warm as usual, its mean temperature being 55.3, and the average 55.8; while the quantity of rain in October, 2.11 inches, is below its average, 3.39. An unusual phenomenon in October was the protracted prevalence of NE. wind. In the second half of the month, many gales and snowstorms occurred in the East, North, and West, which did not strike the centre of the Mississippi Valley.

In September malaria fever prevailed as usual, but not to any great extent In October the fever adopted a mild typhoid type; but, on the whole, the climatic influence of these two months may be called favorable to general health, as the reduced lists of mortality prove.

Editorial.

LETTER FROM MR. JAMES HINTON, LONDON, ON DR. WATTERS' DOCTRINES OF LIFE.

18 SAVILE ROW, LONDON, August 28, 1868.

To the Editors of the St. Louis Medical and Surgical Journal:

Gentlemen,—It is with great satisfaction that I have received from Dr. WATTERS a reprint of his paper on the *Doctrines of Life*, from your 3d and 4th Nos. for this year. My pleasure arises chiefly from seeing so vigorous a demonstration of the truth of a doctrine respecting vitality, o which I attach great importance, but also in a minor degree from finding that my own slight efforts to make it known have not been altogether overlooked. I am proud to think that my little volume, *Life in Nature*, has found even a single reader in the great region of the West; and if it be true, as Dr. WATTERS says, that "the scientific world will expect to hear from me," even though it be only to clear myself from a justifiable suspicion of plagiarism, I shall be proud indeed. And not only proud, but glad; for indeed I have something to tell (as I hope you and Dr. WATTERS will agree) which the scientific world ought to hear.

But, first, I beg of you to allow me to make, briefly, my own personal explanations. Dr. WATTERS refers to two publications of mine, (1) a paper on the *Theory of Inflammation*, 1856:* and (2) *Life in Nature*, 1862. When I wrote the first of these, containing one application of the "doctrine of life" (which I had previously tried in vain for two or three years to insinuate into the journals in other forms), I was under the impression that it was exclusively my own. It came upon me, as Dr. WATTERS describes in his own case, "like a flash;" associated, however, with the analogy, not of a clock, but with that of a whirlpool or a pendulum. Like Dr. WATTERS, I was overjoyed with the notion, and took endless pleasure in applying it to all the details of vital phenomena. But even after I succeeded in having my paper on *Inflammation* published, I did not find that the idea attracted any attention here in England; indeed I met with several persons who could not clearly see the difference between it and previous ideas. And now I became the subject of a really considerable misfortune, in which I may confidently look for the sympathy of your readers. Owing, no doubt, to my having been for some time

*This, we presume, should be 1858; we find the article in question in the Brit. and For. Med.-Chir. Review for July, 1868.—ED.

wholly withdrawn from scientific society, the copy of his Thesis which Dr. WATTERS sent me, never came to hand; and it was not until a few months ago that I had the pleasure of receiving a brief paper of his which apprised me, for the first time, of his prior conception of the dependence of life upon decomposition. Since that time I have not troubled the public with any writings on physiology, or I would sedulously have endeavored to do Dr. WATTERS justice: a task which I at the time requested a friend, who was about to notice Dr. WATTERS' paper in a weekly journal, to do for me; and one which could not have been distasteful to me, because I had no longer any personal interest in the matter.

For I had, several years ago, discovered that I was not the first possessor of this idea; and in the preface to *Life in Nature*, had expressly said: "I put in no claim to be anything more than a mouthpiece" in respect to the ideas contained in it. And in chapter II, pages 46—49, where this doctrine of the dependence of life on decomposition is discussed, I make special reference to three writers who had preceded me in giving expression to it. Two of these writers are Americans; both, as I now perceive, subsequent to Dr. WATTERS; and the reason that I quoted the later and omitted the earlier (to my present great regret) was, simply, that I knew no more. The two American writers quoted, Dr. LE CONTE and Dr. HENRY, had come before the English public in a way in which, at that time, Dr. WATTERS had not. I am sure that he, and all who feel with him and myself, that I did him an unwitting injustice, will accept my apology. How Dr. WATTERS' name came to be absent from the American publications to which I made reference, I do not know.

But, passing from this personal matter, on which I am sorry to have said so much, and for which I will lose no opportunity of making amends, I am very happy to draw the attention of Dr. WATTERS and your readers to the third person to whom reference is made in my volume, as having published, before me, the doctrine of the dependence of life on decomposition. I will quote a few of his words: "Death is essentially a part of life. It is the transit of the organizing influence from the organizing atom which causes that atom's death. It is the transit of the same organizing influence to that atom's type which gives to that type its life. But it is during, and alone during such transit, that conjointly the two atoms live. . . . Thus are two opposite processes, of necessity, concerned in producing the phenomena of actual life, . . . and thus, too, it becomes apparent how death is a part of life." Much more to the same effect might be quoted, but I doubt not that these sentences are enough, and that behind the peculiar phraseology (connected with other ideas which I need not here detail) the identity of thought will be recognized at once.

But these words were published in 1848, and their author is Dr. FREKE, of Dublin.*

It gives me the greatest pleasure, in which no one, I am sure, will more heartily share than Dr. WATTERS (who in the world of thought is wealthy enough to be generous) to do this act of justice to a discoverer to whom we owe more than can yet be known, but whose only reward

* FREKE on Organization, Dublin, 1848.

hitherto has been neglect. Even I, who came so long after, am (thanks to Dr. WATTERS) a little known in connection with this grand thought; but the man upon whom, so far as I am aware, it *first* dawned, and who devoted great powers and great labor to its development, has received no acknowledgment of its value. It is a matter for regret and for rectification. I said he had received *no* acknowledgment, but perhaps I was wrong. He had received that best acknowledgment, of seeing it caught up and borne witness to by other minds, and has that best reward—the consciousness of work well done, of seed laid up for future fruitfulness. Your readers will with pleasure recognize in him an instance of ***dormant vitality***, on which they can test the value of the opposing theories.

I have forwarded to Dr. WATTERS a copy of a small volume published by Dr. FREKE in 1861, "On the Origin of Species," with the view of calling attention to views so long previously put forth by him.

It gives me great satisfaction to make this feeble attempt to do justice to a citizen of a Sister-Isle; but I rejoice still more to recognize in these successive flashes of the same idea, first in Ireland, then in America, then in England, proofs that the idea itself has its origin in truth, and is written deep in nature.

I am, Gentlemen,

Your obedient servant,

JAMES HINTON.

MEDICAL BIBLIOGRAPHY.

The season of literary productivity has again set in, and publishers' announcements of "just published," "in press," and "preparing," are plentiful.

The official report of the International Medical Congress of Paris, in August, 1867, has been issued, forming a large 8vo. volume of nearly 800 pages, embracing all the communications and discussions; V. Masson, and P. Asselin, Paris.

Dr. STORER of Boston, and Mr. HEARD, have prepared a medico-legal treatise on *Criminal Abortion*, the former describing the medical part of the subject, the latter gentleman expounding the legal features; it has been published by Little, Brown & Co., Boston.—The able Handbook of Vaccination by SEATON, reprinted by Lippincott & Co., has been noticed elsewhere in this number.

Mr. Lea announces a series of manuals for students by Dr. HARTSHORNE, entitled "a Conspectus of the Medical Sciences," preparing.

We are happy to learn that a new (10th) edition of FOWNES' very popular Manual of Chemistry, by Dr. H. BENCE JONES and Mr. HENRY WATTS, has appeared, Churchill, London; this has been but too long deferred, partly by reason of the considerable alterations involved in the introduction of the new notation.

Anatomy and Physiology.—The third and last volume of OWEN'S great

work on the Comparative Anatomy of the Vertebrate Animals was to appear in October. A work on Human Osteology, by LUTHER HOLDEN, the Lecturer on Anatomy at St. Bartholomew's Hospital, is in preparation. A seventh edition of CARPENTER'S Human Physiology, edited by POWER, will be issued shortly.

Practice of Medicine.—Dr. MEIGS' work on Diseases of Children is being revised and re-written, to be published by Lindsay & Blakiston. HERMANN, "Clinical Contributions to the Diagnosis and Treatment of Serious Cases," is the title of a work just issued by W. Braumüller, Vienna.

ERLENMEYER'S clinical prize essay on the Treatment of Mental Diseases in their Incipiency has been translated into French.

On diseases of the nervous system we note: HAYEM, "Studies on the Divers Forms of Encephalitis," Delahaye, Paris; and ECHEVERRIA on Epilepsy, Wood & Co., N. Y., to be ready in November. BIRCH, on Constipation, Lindsay & Blakiston's reprint, has been commented on in this number. MURCHISON'S Clinical Lectures on Diseases of the Liver have been republished by Wood & Co., N. Y.—The same firm have issued a reprint of DICKINSON'S treatise on Albuminuria, and promise one of STEWART on Bright's Diseases, which is announced as "nearly ready" by A. & C. Black, Edinburgh. Clinical Lectures on the Diseases of the Urinary Organs, by Sir HENRY THOMPSON, will be issued by Churchill, London.

The large *Clinique photographique de l'hôpital Saint Louis*," a series of photographs of Skin Diseases, by Prof. HARDY and MONTMÉJA, has been completed; the work contains 49 photographic and colored plates in 4to, and is sold at 60 francs; Chamerot et Lauwereyns, Paris.

The labors of the International Sanitary Congress of Constantinople (1865) have been arranged by FAUVEL in a work on the etiology, prophylaxy, etc., of Cholera, and issued by J. B. Baillière et fils. HALLIER has published his "Parasitological Researches" in measles, typhoid fever, small-pox, vaccinia, cholera nostras, etc., Leipzig.

Surgery.—Of general works, we note Lectures upon Practical Pathology and Surgery, by H. LEE, in the press of Messrs. Churchill. Lond.;—GANT, The Practice of Surgery, Clinical, Medical, and Operative, being a systematic treatise on surgical injuries and diseases, in preparation by the same firm;—SPENCE (Prof. Surg., Univ. Edinb.), Lectures on Surgery, 1 vol., 8vo., nearly ready, A. & C. Black, Edinb. We may also mention here, because so little known, though issued in 1867: WALTER, Conservative Surgery in cases of Severe Traumatic Injuries of the Limbs, Pittsburgh. Lindsay & Blakiston have in preparation a work on Surgical Diagnosis, by Dr. ADDINEL HEWSON. The veteran Professor VICTOR v. BRUNS, of Tübingen, is publishing a new general textbook on surgical instruments and dressings, and operative surgery, the first half of which (288 pp., 8vo.) has appeared under the title: *Chirurgische Heilmittel.*

Messrs. Churchill, Lond., announce a number of surgical monographs: BRAIDWOOD, on Pyæmia (the Astley Cooper Prize Essay for 1868), nearly ready;—RAMSAY and COLES, The Mechanical Treatment of Deformities of the Mouth, has been issued;—HEATH, Injuries and Diseases of the

Jaws (the Jacksonian Prize Essay, R. Coll. Surg., England, 1867), has also appeared;—GRAY, On Varicose Disease of the Lower Extremities (Lettsomian Lectures for 1867), do.;—SWAIN, On Diseased Conditions of the Knee-Joint, which require amputation of the limb or excision of the joint, nearly ready. Mr. James Campbell, Boston, is about to print a second revised edition of CHEEVER'S Œsophagotomy. Wood & Co. have in press: BODENHAMER, Pract. Observations on the Etiology, Path., etc., of Anal Fissure.

The fourth part of BUMSTEAD'S edition of CULLERIER'S Atlas of Venereal Diseases has been published, and is equal in elegance of mechanical execution to the first three. The fifth part will complete the Atlas.

We learn that the edition of Drs. HACKLEY and ROOSA'S translation of STELLWAG v. CARION'S ophthalmological treatise is already nearly exhausted, and that a second edition will be prepared soon. SCHEFFLER, *Die Theorie der Augenjehler u. der Brille* (the Theory of Ocular Defects and of Spectacles) published this year by Braumüller, Vienna, is about to appear in an English translation by CARTER, Longmans, Green & Co., London. Messrs. Churchill, ibid., have published: WOLFE, An Improved Method of Extraction of Cataract, with results of 107 operations.

Obstetrics. Diseases of Women.—Of TYLER SMITH'S Obstetrics a second edition is in press. The number of treatises on Diseases of Women is to be increased by another from the pen of Sir J. Y. SIMPSON of Edinburgh, which A. & C. Black have in press. Dr. GANTILLON'S memoir on Uterine Catarrh, just published in Paris, under the title: *Du Catarrhe Uterin et de son traitement par les injections intra-utérines*, has also appeared in the English language.

Materia Medica and Therapeutics.—We read the following among the announcements of Messrs. Churchill: A Dictionary of Materia Medica and Therapeutics, by ADOLPHE WAHLTUCH, M.D., nearly ready. The same firm has given us a memoir on the Mercurial Vapor Bath, by PARKER. In Paris, Germer Baillière, appeared: FUMOUZE, *De la Cantharide officinale*, 56 pp. 4to., with 5 plates. We also note: FOSTER (Prof. Med. Queen's Coll., Birmingham) Ether and Etherized Cod Liver Oil in the Treatment of Pulmonary Consumption.

Carbolic Acid.—Dr. H., Glaze City, Mo., requests us to inform him whether, in the frequent allusions to carbolic acid by recent writers, the crystals or "the solution" is meant.

The circumstance that authors have usually failed to speak of the preparation they use is, in the absence of an official formula, a serious matter. We have always been using the crystals, *i. e.*, the pure substance, and in the same proportions to the vehicle or solvent as authors have directed. The crude liquid known as impure carbolic acid is not to be recommended for internal administration, or even surgical dressings, etc.,

first, because of its impurities, and secondly, on account of its variable degree of concentration.

Although the crystallized state is not an absolute proof of the purity of carbolic acid, the possible admixture (of cresylic acid) is of a nature not materially to alter its medicinal effects; the crystals may therefore be regarded as pure for all therapeutic purposes. Moreover, the article in this condition is as easily handled as the liquid form; by a slight elevation of temperature it is rendered fluid, and may be measured in an ordinary graduated apothecary's measure. We have been in the habit of employing a concentrated aqueous solution of the crystals, which is easily prepared by pouring about 20 parts of distilled water upon 1 part of carbolic acid, the excess of which will remain at the bottom of the bottle in the shape of an oily drop; and an oil composed of six parts of linseed or olive oil to 1 part of the acid. By the addition of alcohol or glycerine to the water, a stronger solution than the first mentioned can be obtained.

The Chicago Medical Examiner, Oct., 1868, in copying three articles from our columns, has deemed it best not to give credit to the ST. LOUIS MEDICAL AND SURGICAL JOURNAL.*

Much as we dislike to expend a word or a minute on this matter, the frequent occurrence of this kind of "oversight" compels us to protest. We must insist on being treated with the same courtesy that we invariably extend to others. The fact that the appropriating journal arranges the article under a head of "selections, extracts," etc., is not an excuse, not even if the heading be re-enforced by a Latin motto ("*carpere et colligere*," for instance). Nor is it less culpable to set aside the civility of giving credit in case of copying an article from the "extract" columns of another journal. Two of the articles referred to above, though "extracts," were nevertheless original with us: the one, an original translation from the *Union Médicale*, for which we are under *obligations* to the translator,—the other an original abridged translation from the *D. Archiv f. klin. Medicin.*

If the *Detroit Review of Medicine and Pharmacy*, as it kindly informs us in its facetious reply, contained in the April number, claims nothing as orginal which appears in *its* pages as a "selection," it does not prove that *we* bestow no labor upon our extract columns, nor that we are particularly anxious to perform this labor *incognito* for the benefit of the readers of the *Review*.

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* "The Pathology of Paralysis with Muscular Degeneration," this Journal, No. 5, p. 438; "A Modification of the Clinical Thermometer," ib., p. 435; and "Case Illustrating the Nature of Epilepsy," p. 437;—the last two, as well as a note appended to the first, characterized by larger type as original with us.

Prof. Joseph N. McDowell.—We have to chronicle the death of this well-known surgeon and veteran teacher, which took place, after a brief illness, on the 25th of September.

Dr. McDOWELL was a native of Kentucky, and took up his residence in St. Louis in 1840; in the same year he became the founder of the Missouri Medical College, in which he occupied the chair of Surgery, and to which he devoted all his energy. The loss to the faculty of this institution, occasioned by his death, is a serious one.

At a meeting of the physicians of St. Louis, Dr. E. MONTGOMERY in the chair, the following resolutions were adopted:

WHEREAS, In the dispensation of Providence, Dr. J. N. McDOWELL has been suddenly removed by death; therefore,

Resolved, That we, the physicians of St. Louis do hereby express our deep and sincere grief at the death of our eminent and learned brother, who was by his learning, skill, and originality, a shining light in our profession.

Resolved, That we deeply sympathize with his bereaved family in their severe loss, but we at the same time feel that they have a consolation in the great name he leaves behind, an honor to them and to the profession he adorned.

Resolved, That to show our respect for his memory, we will attend his funeral in a body.

Resolved, That a copy of these resolutions be sent to his family.

BOOKS AND PAMPHLETS RECEIVED.

HODGE, On Diseases peculiar to Women, including Displacements of the Uterus. Second edition, revised. Philad.: H. C. Lea, 1868. 8vo., pp. 550.

HAWLEY, The Use of Pepsine in the Diarrhœa of Infants. 8vo. pamphlet, pp. 12.

FREKE, Reflections on Organization; or Suggestions for the Construction of an Organic Atomic Theory. Dublin, 1848. 8vo., pp. 80.—From the author.

——, On the Origin of Species by means of Organic Affinity. London, 1861. 8vo., pp. 135.—From the author.

——, An Appeal to Pyhysiologists and the Press. Dublin, 1862. 8vo. pamphlet, pp. 34.—From the author.

SUTTON, Report on Cholera to the Indiana State Medical Society, 1868, 8vo. pamphlet, pp. 16. S. l. & a.

Illustrated Catalogue of Medical, Surgical, and Scientific Publications published by Henry C. Lea (late Lea & Blanchard), Philadelphia, 1868. 8vo., pp. 64.

ELMER, Physicians' Handbook of Ptactice for 1869. New York: Townsend & Adams.

Transactions of the Indiana State Medical Society at its 18th Annual Session. Indianapolis, 1868. 8vo., pp. 173.

Transactions of the 15th Annual Meeting of the Medical Society of the State of South Carolina. Wilmington, 1868. 8vo., pp. 70.

STORER (H. R.) and F. F. HEARD, Criminal Abortion; its Nature, its Evidence, and its Law. Boston: Little, Brown & Co., 1868. 8v. pp. 225.

FLINT (AUSTIN, FILS) *Recherches expér. snr une nouvelle fonchon du foie.* Paris, Germer Baillière, 1868. 8vo., pp. 122. (D. Appleton & Co., New York.)

CAZEAUX, A Theoretical and Practical Treatise on Midwifery, including the Diseases of Pregnancy and Parturition. Revised and annotated by S. TARNIER. 5th American, from the 7th French edition. By W. R. BÜLLOCK. With 175 illustrations. Philad.: Lindsay & Blakiston, 1868. 8vo., pp. 1124.

The Physician's Visiting List for 1869. Philad.: Lindsay & Blakiston.

HILLIER, Diseases of Children. Philadelphia: Lindsay & Blakiston, 1868. 8vo., pp. 402.

CULLERIER, Atlas of Venereal Diseases. Translated, etc., by F. J. BUMSTEAD. Part IV. Philad.: Henry C. Lea, 1868. 4to.

BIRCH, Constipated Bowels. From the 3d London edition. Philad.: Lindsay & Blakiston, 1868. 12mo., pp. 181.

ROBERTSON, A Manual on Extracting Teeth. Second edition. Philad.: Lindsay & Blakiston, 1868. 12mo., pp. 200.

AITKEN, The Science and Practice of Medicine. 2d American, from the 5th, enlarged and carefully revised, London edition. With large additions by M. CLYMER. In 2 vols.—Vol. I. Philadelphia: Lindsay & Blakiston, 1868. 8vo., pp. 927.

SEATON, Handbook of Vaccination. Philad.: J. B. Lippincott & Co., 1868. 12mo., pp. 383.

MURCHISON, Clinical Lectures on Diseases of the Liver, Jaundice and Abdominal Dropsy. New York: Wm. Wood & Co., 1868. 8vo., pp. 556.

Transactions of the 18th Anniversary Meeting of the Illinois State Medical Society. Chicago, 1868. 8vo., pp. 110.

Transactions of the 23d Annual Meeting of the Ohio State Medical Society. Cincinnati, 1868. 8vo., pp. 201.

WALTER, Conservative Surgery in its general and successful adaptation in cases of Severe Traumatic Injuries of the Limbs, with a report of cases. Pittsburgh, 1867. 8vo., pp. 215.—From the author.

MARSHALL, Outlines of Physiology, Human and Comparative. With additions by F. G. SMITH, M.D. Philad.: Henry C. Lea, 1868. 8vo., pp. 1026.

The Materia Medica in its Scientific Relations. (Anonymous.) New Haven, Conn., 1868. 8vo., pamphlet, pp. 42.

ARLT, Retinitis Nyctalopica. Translated by J. F. WEIGHTMAN, M.D. Philad.: Lindsay & Blakiston, 1868. 8vo. pamphlet, pp. 23.

Missouri Medical College.—We are informed that Dr. PAUL F. EVE, late Professor of Surgery in the University of Nashville, has been appointed to fill the vacancy occasioned by the death of Dr. McDOWELL. We sincerely congratulate the College. A more fortunate appointment could scarcely have been made, than this one, attracting to our city a surgeon so generally and favorably known throughout the United States.

We learn that Prof. WATTERS will be assisted in his chair of Clinical Medicine by Dr. P. GERVAIS ROBINSON, a gentlemen of great ability and talent, who will conduct the medical clinics, and lecture in physical diagnosis.

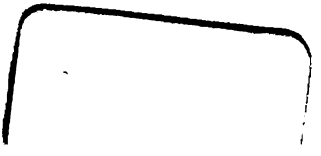
MORTUARY STATISTICS.

Number of Deaths in the City of St. Louis, 1868.

DURING THE WEEK	MALES.	FEMALES.	Total.	STILL-BORN.*	UNDER 5 YEARS.
Ending Sept. 4th	67	69	**136**	10	77
" " 11th	74	48	**122**	6	59
" " 18th	71	57	**128**	7	69
" " 25th	52	43	**95**	11	49
" Oct. 2d	64	52	**116**	10	54
" " 9th	52	36	**88**	8	45
" Aug. 16th	58	35	**93**	15	33
" " 23d	55	42	**97**	15	53
" " 30th	55	42	**97**	4	42

Total No. of Deaths in Sept.....501— Death Rate†.....25.05
" " " Oct.....424— " " 20.43

*Still-born are not included in list of deaths.

†The ratio of deaths per annum per mille of inhabitants. The number of inhabitants not being exactly known and constantly varying, these figures are approximative only based on the official estimates of the population.

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